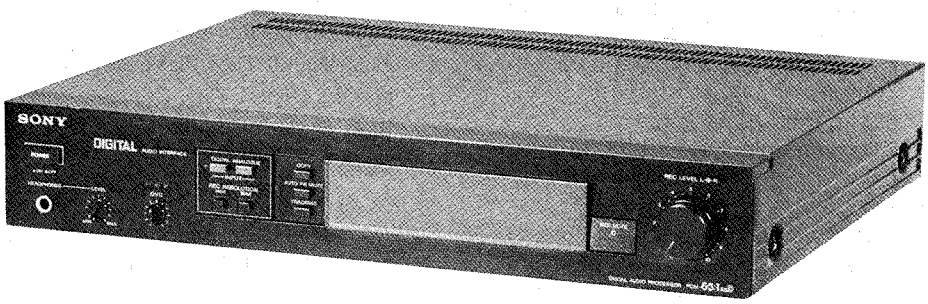
PCM-601ESD

SERVICE MANUAL

US Model
AEP Model



SPECIFICATIONS

Signal system	Conforms to CCIR television standard, PAL/SECAM (type1, 2) and NTSC (type 3) color
Code format	Conforms to the technical specifications of the EIAJ (standard format using 14-bit or 16-bit quantization)
Number of audio channels	2 channels
Sampling frequency	44.1 kHz
Quantization	14-bit linear quantizing, or 16-bit linear quantizing
Frequency response	5-20,000 Hz ±0.5 dB
Harmonic distortion	Less than 0.007% (14-bit format) Less than 0.005% (16-bit format)
Dynamic range	More than 86 dB (14-bit format) More than 90 dB (16-bit format)
Channel separation	More than 80 dB
Wow and flutter	Below measurable limit
Error correction	Error correction and concealment using CRCC and parity
Emphasis	Pre-emphasis (on recording) : fixed at ON De-emphasis (on playback) : automatically switched ON or OFF (by detecting pre-emphasis identification code) Time-constant: 50μsec, 15μsec

Inputs

	Type	Reference input level	Impedance	Minimum input level
LINE IN	Phono	0.24 V (−10 dBs)	50 kilo-hms	77.5 mv (−20 dBs)
VIDEO IN	Phono	1 Vp-p	75 ohms	——
DIGITAL IN	Phono	0.5Vp-p	75 ohms	——

Outputs

	Type	Reference output level	Load impedance
LINE OUT	Phono	0.24 V (−10 dBs)	More than 10 kilohms
MONITOR OUT	Phono	1 Vp-p	75 ohms
VIDEO OUT	Phono	1 Vp-p	75 ohms
COPY OUT	Phono	1 Vp-p	75 ohms
HEADPHONES	Stereo phone	0.9−0.003 mW Continuously Adjustable	32 ohms
DIGITAL OUT	Phono	0.5Vp-p	——

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

DIGITAL AUDIO PROCESSOR

SONY®

AUD

General

Power requirements	Type 1 : 220 V ac (or 240 V ac adjustable by authorized Sony personnel), 50/60 Hz Type 2 : 240 Vac (or 220 V ac adjustable by authorized Sony personnel), 50 Hz Type 3 : 120 V
Power consumption	29 W
Dimensions	Approx. 430×85×385 mm (w/h/d) ($17\times3^3/_8\times15^1/_8$ inches) including projecting parts and controls
Weight	6.0 kg (net) (13 lb 3 oz) 7.0 kg (in shipping carton) (15 lb 3 oz)
Supplied accessories	
	Vido connecting cord (2) Type 1,2 : phono↔BNC plug Type 3 : phono plug↔phono plug
	Audio connecting cord (2)

FEATURES

The PCM-601 ESD Sony PCM digital audio processor reproduces a wide dynamic range of stereo sound with minimal distortion, low wow and flutter and a flat frequency response.
To obtain better sound quality, this equipment can also be used as an A/D (analog-to-digital) converter or as a D/A (digital-to-analog) converter.

DIGTAL IN/OUT jacks can be connected to a DA converter or a CD player with a DIGITAL OUT jack
Connect to Sony DAS-702ES DA converter unit, or a CD player with digital outputs such as the CDP-552ESD or CDP-650ESD, for quality sound reproduction.

Selectable format : 16-bit or 14-bit
Select the 16-bit format for a wide-dynamic range and low distortion, or the 14-bit format for error correction capability.

OVC (optimum video condition) control
Reads the VTR output signal and detects the VTR error condition caused by a stained head or unstable tape transport. Adjust this control to achieve a balance between the VTR and the unit for optimum performance in playback mode.

COPY OUT jack
Enables digital-to-digital tape copying with no deterioration in signal quality.

Other functions
- **Bright, easy-to-read peak program meters** enables precision setting of recording and playback levels.
- **Record muting function** enters a blank space between recordings.
- **MONITOR OUT jack** allows monitoring, regardless of the POWER switch setting.
- **AUTO PB MUTE (auto playback muting) button** enables continuous listening or double speed video playback monitoring.

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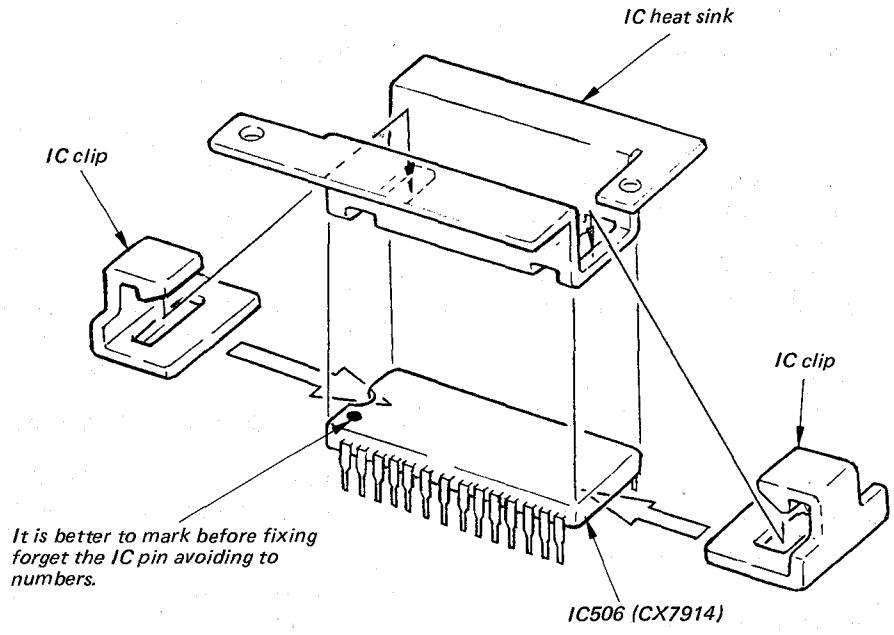
SERVICING NOTES

NOTES ON IC506 (CX7914) REPRACEMENT

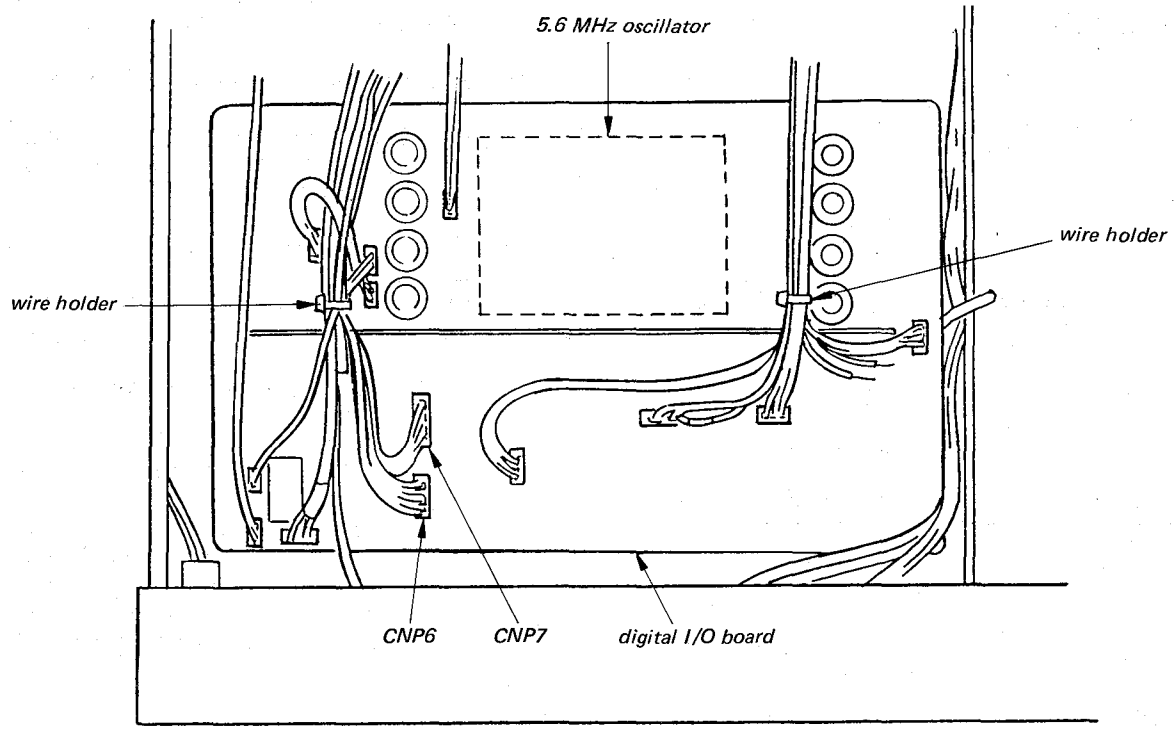
When replacing IC506, first clean the adhesive applying surface of the IC and of the heat sink with alcohol, then fix the heat sink on the IC with an epoxy type adhesive , and insent the IC clips to the claw locking.

Note: This CX7914 IC is fragile to static electricity. Be careful enough to handle this IC.



CNP6 AND CNP7 ON DIGITAL I/O BOARD DISPOSITION

Dispose the leads of CNP6 and CNP7 avoiding the 5.6 MHz oscillator as shown below. (Cause the noise generation.)



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

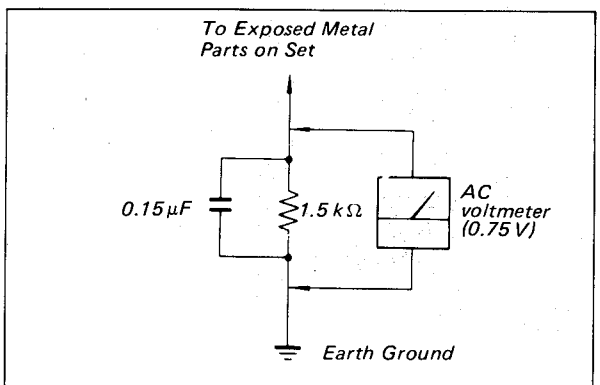


Fig. A. Using an AC voltmeter to check AC leakage.

FUNCTION OF CONTROLS

FRONT PANEL

1 POWER switch

2 INPUT select buttons
Press to select the program source to be recorded.
DIGITAL : Digital audio signals input from the DIGITAL IN jack.
ANALOGUE : Audio signals input from the LINE IN or VIDEO IN jacks. Signals from the VIDEO IN jack take priority over those from the LINE IN jack.

3 COPY (digital tape copy) button
Depress this button for digital-to-digital tape copying using a pair of VTRs and the COPY OUT jack. Be sure to release this button when digital tape copying is completed.

4 AUTO PB MUTE (automatic playback muting) button
Depress this button during playback to activate the muting function and to eliminate noise caused by VTR dropouts.

5 Display window

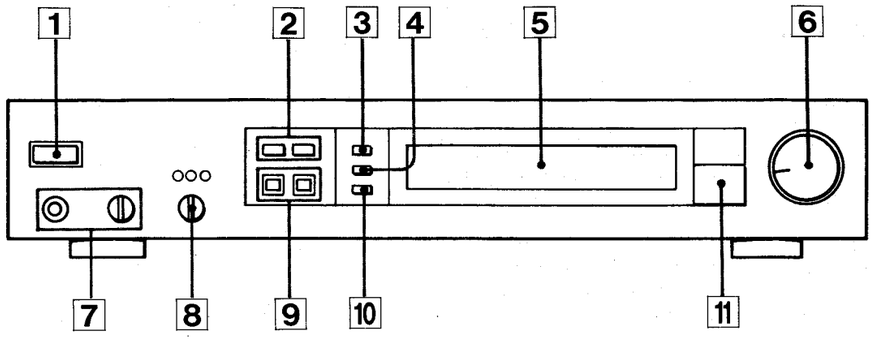
6 REC LEVEL (recording level) controls
Adjust the recording level. The outer control governs the left channel, and the inner control governs the right channel.

7 HEADPHONES jack (stereo phone jack) and LEVEL (headphone level) control
Enables monitoring of playback or recording, and adjustment of the headphone level.

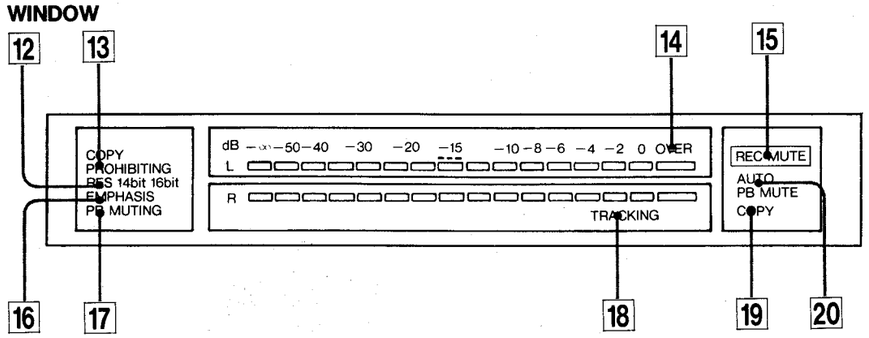
8 OVC (optimum video condition) control and indicators
First, depress the TRACKING button and then adjust this control to make good balance between this unit and a VTR.

9 REC RESOLUTION (record resolution) select buttons
Select the appropriate format for the desired resolution. Under normal operation, depress the 16-bit button.
14-bit : Press this button to record with the 14-bit format.
A tape played back on a processor with a 14-bit format, must be recorded with the 14-bit format.
16-bit : Press this button to record or playback a tape with the 16-bit format. The 16-bit format produces recorded tapes with a wider dynamic range and less distortion than those recorded with a 14-bit format.

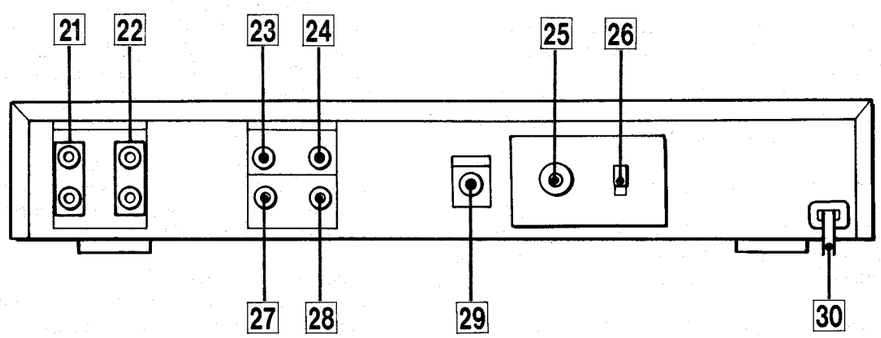
FRONT PANEL



DISPLAY WINDOW



REAR PANEL



10 TRACKING button
Depress this button before adjusting the tracking of the video tape on the VTR. The tracking meter appears in the display window in place of the peak program meters. Each time the button is pressed, the meter function changes.

11 REC MUTE (record muting) button
Keep this button depressed to eliminate unwanted material and to enter a blank space between recorded selections.

DISPLAY WINDOW

12 RES (resolution) indicator
During recording : Displays the record resolution (14-bit or 16-bit) selected by the REC RESOLUTION select button.
During playback : Displays the resolution of the tape being played, regardless of the setting of the REC RECSOLUTION select button.

13 COPY PROHIBITING indicator
Lights up when playing back a tape with a tape copy prohibition code is played back or when a CD (compact disc) source input from the DIGITAL IN jack is played back.

14 OVER indicators
Light up when the recording level signals exceed "0" dB, to warn that the recording level is too high.

15 REC MUTE (record muting) indicator
Lights up while the REC MUTE button is depressed.

16 EMPHASIS indicator
Lights up when a tape recorded with emphasis* is played back or recorded.
*This unit's emphasis circuit automatically activates when a tape recorded with emphasis is recorded or played back. This function gurantees optimum sound and increases the signal-to-noise ratio of digital tapes.

17 PB MUTING (playback muting) indicator
Lights up, regardless of the AUTO PB MUTE button setting, when the VTR is not transportating the tape at the proper speed, such as at the beginning of tape playback, or when frequent dropouts occur.

18 TRACKING indicator
Lights up when the TRACKING button is depressed. The R meters indicate the VTR's tracking condition, and move to the right as tracking improves.

19 COPY indicator

20 AUTO PB MUTE (automatic playback muting) indicator

REAR PANEL

21 LINE IN (line input) jacks (phono jack)
Connect to REC OUT (recording output) jacks of an audio amplifier or to the LINE OUT jacks of a stereo microphone amplifier.

22 LINE OUT (line output) jacks (phono jack)
Connect to the TAPE IN (tape input) jacks or AUX IN (auxilary input) jacks of an audio amplifier.

23 VIDEO IN (input) jack (phono jack)
Connect to the VIDEO OUT (output) jack of the VTR.

24 VIDEO OUT (output) jack (phono jack)
Connect to the VIDEO OUT (output) jack of the VTR.

25 DIGTAL OUT (output) jack (phono jack)
Connect to the DIGITAL IN (input) jack of equipment, such as the DAS-702ES DA converter unit.

26 DIGITAL OUT switch
Set to ON when connecting the DIGITAL OUT jack. **Set to OFF when not in use.**

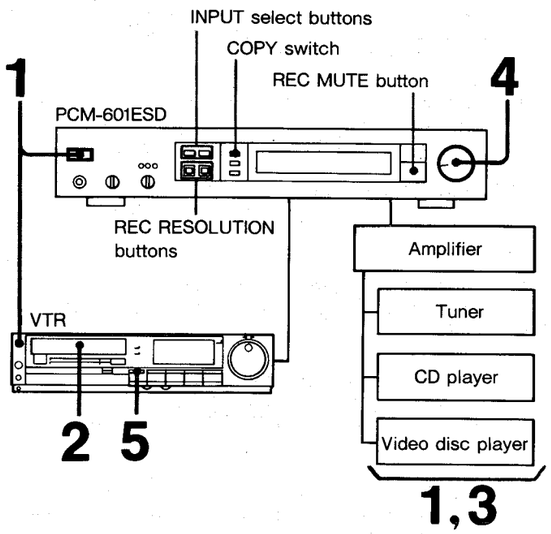
27 MONITOR OUT (output) jack (phono jack)
Connect to the VIDEO IN (input) jack of a component TV or a video monitor.

28 COPY OUT (output) jack (phono jack)
Connect to the VIDEO IN jack of a second VTR to make digital tape copies.
Note : Do not connect the COPY OUT jack during normal recording or playback. Connecting it instead of the VIDEO OUT jack may adversely affect recording or playback.

29 DIGITAL IN (input) jack
Connect to the DIGITAL OUT jack of a CD player, such as the Sony CDP-552ESD or CDP-650ESD.

30 Power cord

PCM DIGITAL RECORDING



Set the switches below to the appropriate position or press the appropriate button.

VTR	Input select switch (if equipped)	**LINE**
	PCM switch (if equipped)	**PCM**
PCM-601ESD	INPUT select buttons	**DIGITAL or ANALOGUE** (Select according to the input source.)
	COPY switch	**OFF**
	REC RESOLUTION buttons	**16 bit** (During normal use)

1 Turn on the connected equipment.

2 Insert a video cassette.

3 Press the appropriate function select button of an amplifier and play the program source.

4 Adjust the REC LEVEL controls so that the red OVER indicators on the peak program meters illuminate ocasionally at the highest signal level (See "Recording level adjustment".)

5 Start recording on the VTR.

Notes
- It is not necessary to adjust the REC LEVEL controls when recording a source input from the DIGITAL IN jack.
- When the DIGITAL IN jack is not connected, the incoming source from the LINE IN jack will be recorded as an analog source regardless of the INPUT select button setting.
- Refer to the VTR instruction manual on details on operation.

To monitor the recording
Be sure that the PCM-601ESD VIDEO IN jack is connected to the VTR VIDEO OUT jack. Otherwise, the peak program meters will not indicate the PCM-601ESD monitoring level and monitoring can not be made.

To record two tapes simultaneously
Connect the second VTR's VIDEO IN jack to the PCM-601ESD's COPY OUT jack.

RECORDING LEVEL ADJUSTMENT

Adjust the recording level with the REC LEVEL controls so that the peak program meters do not deflect over 0 dB.
The red illumination of the OVER indicators warns of an overload during recording. If the indicators illuminate frequently, the recording level is set too high (this will result in overload and distorted recording). As the peak program meters used in this unit are far more sensitive than conventional VU meters, also be careful not to set the recording level too low, as the signal-to-noise ratio will deteriorate. The correct recording level settings vary with the program source you are recording. Generally, adjust the level to about 15 dB.

The emphasis circuit automatically activates during recording and the peak program meters indicate the emphasized input signal levels.

Note : The OVER indicators may light up frequently when a digital recording is made from a CD player, which is equipped with the DIGITAL OUT jack such as the CDP-552ESD or CDP650ESD. The frequent lightning of the OVER indications shows that the highest CD level is being recorded, not that the sound is distorted.

RECORD MUTING

During recording, unwanted program material such as commercials can be eliminated by pressing the REC MUTE button.
When this button is pressed, no signals are recorded on the tape, but the program can be monitored through the speakers or headphones.

1 While recording, just before the portion to be eliminated begins, press the REC MUTE button. Keep it pressed until the portion to be eliminated ends. This button cannot be locked.

2 Release this button to begin recording again.

NOTES ON RECORDING

VTR

Tape speed
With the ⓔ VTR, we recommend using the ⓔI or ⓔII mode. PCM recording in long play mode is not recommended.
Make trial recording.

PCM switch
Set this switch to ON to deactivate the picture compensation circuit, which is not used during PCM recording.
Even if a VTR without a PCM switch is used, the PCM-601ESD can read and compensate error date with its error processing circuit.

Be sure the video cassete tab has not been removed.
The REC (record) function does not operate if the tab has been removed. If the tab has been removed, cover the slot with plastic tape.

Do not set the unit in the pause mode for an extended period of time.
If the VTR is set to the pause mode for a long time, the video tape may be damaged. We recommend that the pause button be used as little as possible. The playback muting function may not operate in the pause mode on some VTRs and the noise may be heard.

PCM-601ESD

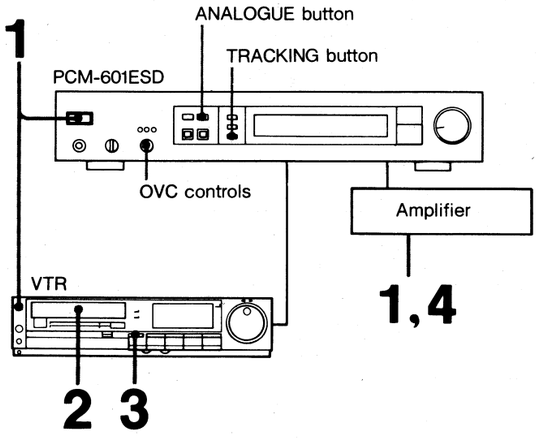
14-bit/16-bit setting
Press either the 14-bit or the 16-bit button before making a recording. During playback the unit detects the format with which the tape was recorded and automatically selects the 14-bit or 16-bit setting.

REC LEVEL control adjustment
Adjust the REC LEVEL control only when signals are input from the LINE IN jack. If signals are input from the DIGITAL IN jack, the recording level is automatically set to the optimum level.

COPY switch
Depress this switch to make a digital tape copy. **Be sure to set it to OFF during normal recording or playback.** A normal recording cannot be made when this switch is set to ON.

Analog tape copying
If your amplifier does not have a tape copy function, connect the LINE IN jack of a cassette deck directly to the LINE OUT of the PCM-601ESD to copy a PCM-recorded tape.
If you connect the cassette deck to the AUX or TUNER input jack of that amplifier, howling may occur and the speaker may be damaged.

PCM DIGITAL TAPE PLAYBACK



Set the switches below to the appropriate position or press the appropriate button.

VTR	Input select switch (if equipped)	**LINE**
Amplifier	Input selector	**TAPE or CD** (depending upon which is connected to the PCM-601ESD)
	Volume control	**Minimum position**
PCM-601ESD	INPUT select buttons	**ANALOGUE**

1 Turn on the connected equipment.

2 Insert a PCM recorded video cassette.

3 Start playback on the VTR.

4 Adjust the amplifier volume.

Note : Set the amplifier volume relatively low, and do not adjust it when no audio signals or a low level input are recorded. Otherwise, the speaker may be damaged when high-level signals are input, because PCM recording affords a wider dynamic range than is afforded by conventional analog recording.

TRACKING ADJUSTMENT OF THE VTR

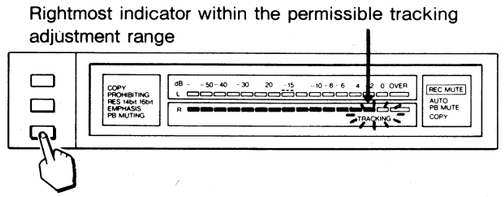
When a video tape recorded on another VTR is played back, dropouts occasionally occur due to mistracking of the video heads. To obtain optimum sound reproduction, adjust the tracking of the VTR as follows.

1 Press the ANALOGUE button.

2 Press the PCM-601ESD TRACKING button.
The TRACKING indicator lights up and the tracking meter appears in place of the peak level meters.

3 Insert a recorded video cassette into the VTR and set the unit to the playback mode.

4 After the PB MUTING indicator goes off, adjust the VTR tracking control so that the rightmost indicators light up within the permissible tracking adjustment range.



AUTOMATIC PLAYBACK MUTING FUNCTION

Press the AUTO PB MUTE button during playback to activate the muting circuit, which automatically eliminates faulty sound reproduction caused when tape playback begins or when the unit is set to the fast forward or pause modes, or when frequent dropouts occur.
If the muting circuit activates so often as to make listening unpleasant, adjust the VTR tracking control and then press the AUTO PB MUTE button to relaese it. This will permit you to continue listening without interruption, although a certain amount of noise will be reproduced.

Notes
- Be sure to press the AUTO PB MUTE button when recording and playing back TV programs. Otherwise the video data could be misread as PCM data and clicking noise might occur, which could damage the speakers. Clickilg may also occur when a blank video tape is played back.
- The PB MUTING indicator lights up when dropouts occur, regardless of the AUTO PB MUTE button setting.

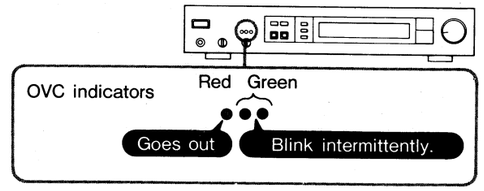
OVC CONTROL ADJUSTMENT

When playing back the tape recorded with the ⅇⅢ or VHS long play mode, on which the recorded track is too narrow to correctly pick up the digital signals, set the OVC control as follows :

1 Press the ANALOGUE button.

2 Press the PCM-601ESD TRACKING button and adjust the VTR tracking function (see "Tracking adjustment of the VTR").

3 Turn the OVC control as follows :



4 If you cannot make the adjustment this way, reset the OVC control to the center position and adjust the VTR's picture or sharpness control so that the OVC indicators light up in the manner described in step 3.

Once the optimum video condition is obtained, it is not necessary to readjust the OVC control even if red OVC indicator sometimes flashes or lights up. The built-in error correction circuit functions at that time.
If the red OVC indicator frequently flashes, clean the head or replace the video tape.

Note : The OVC indicator shows the logically counted PCM data condition. Therefore, the VTR condition is checked only with the PCM data and it does not correspond to the video image condition. In general, PCM data error occurrence tends to decrease when no image or dropout compensation is applied.

MAKING

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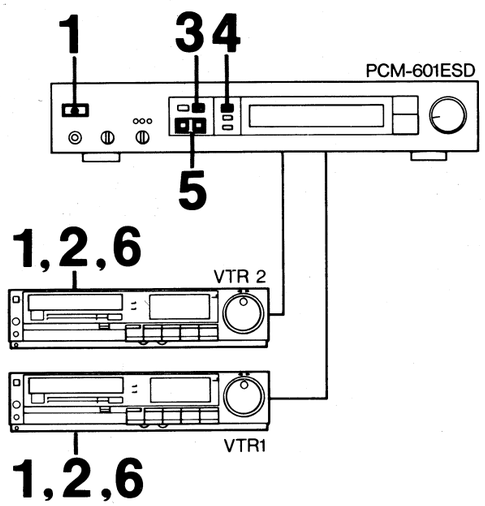
MAKING DIGITAL TAPE COPIES

Recording can be made with no deterioration in sound quality, since the error data are detected and corrected in digital-to-digital copying. Recording level adjustment is not necessary.
Two VTRs are required for copying : one for playback (VTR 1) and the other for recording (VTR 2).
After making the connection illustrated on page 14, proceed as follows.



1 Turn on the connected equipment.

2 Insert a recorded tape into the VTR 1 and a blank tape into the VTR 2.

3 Depress the ANALOGUE button.

4 Depress the COPY button.

5 Depress either of the REC RESOLUTION select buttons : 14-bit or 16-bit. Depress the 16-bit button for normal use.

6 Start playback on the VTR 1 and recording on the VTR 2 to begin copying.

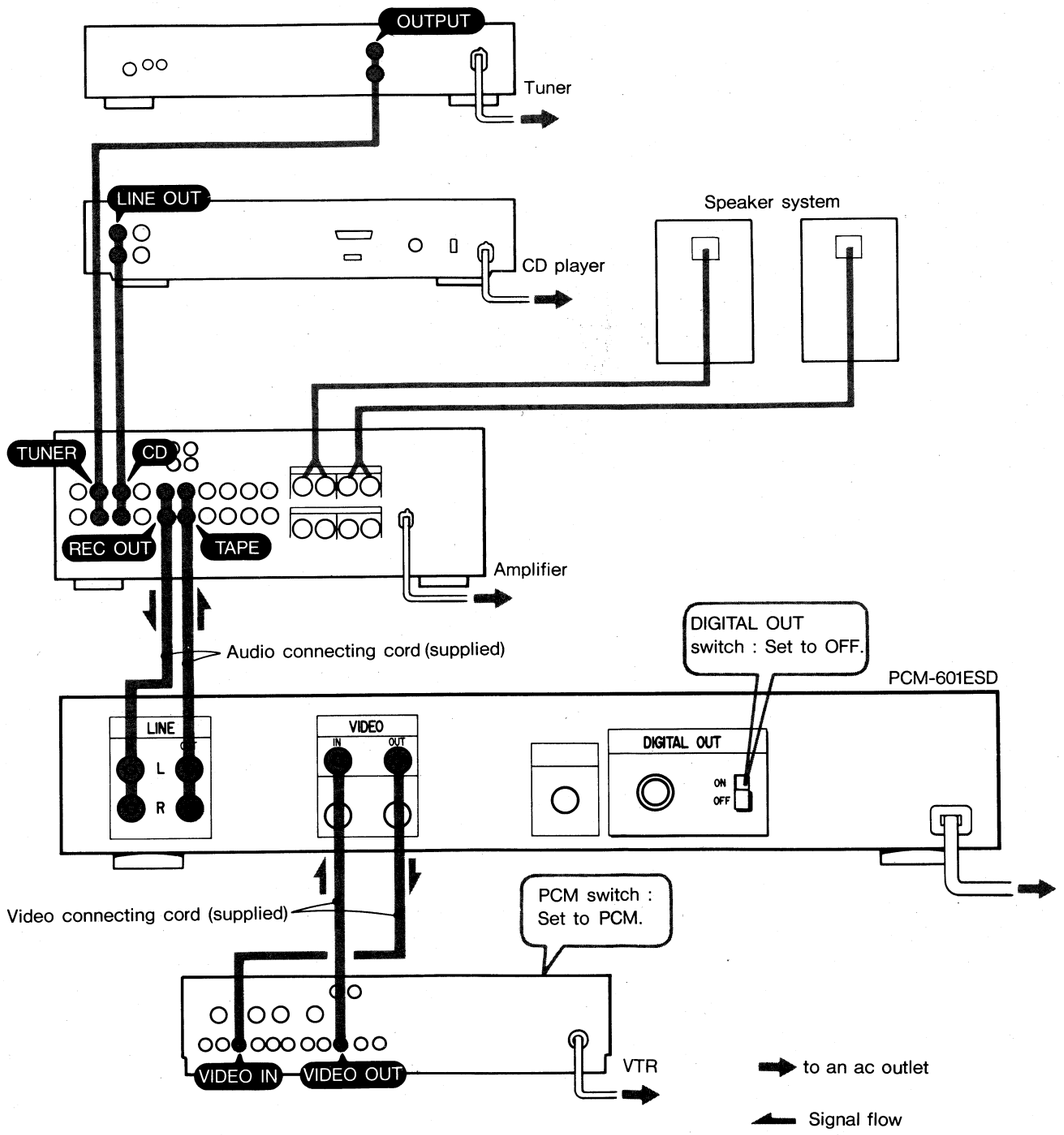
When copying is completed, press the COPY button again to release it.

Notes :

- Turn the amplifier volume down before depressing the COPY button.
  Otherwise, a clicking noise may be heard.
- When the COPY PROHIBITING indicator appears in the display window, copies cannot be made even if the COPY button is depressed.
- A tape will be copied with no deterioration in signal quality, even if sound heard through the headphones or speakers is distorted.

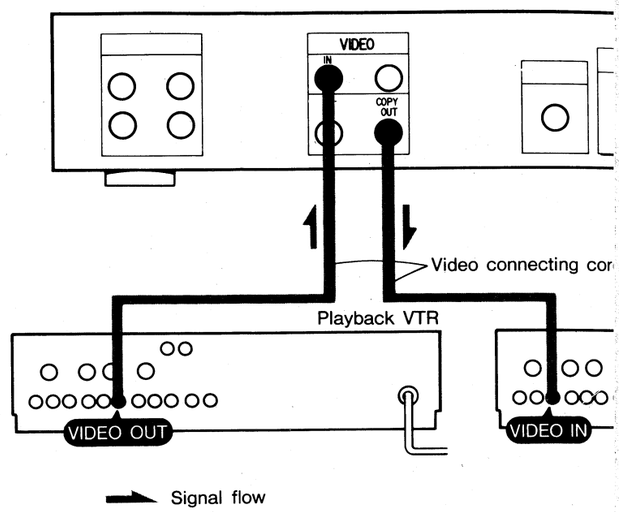
BASIC SYSTEM CONNECTIONS

BASIC CONNECTION



Power cord polarity
A white mark is visible on the lead of the power cord. This will help to operate the PCM-601ESD and the other system components of the system "in phase" by aligning the ac power cord polarities with the ac outlet polarities. In most cases, the marked plug of the PCM-601ESD power cord should be inserted into the grounded side of the ac outlet.

CONNECTION FOR DIGITAL TAPE COPYING



CONNECTION NOTES

- Turn off the amplifier before making connections.
- The supplied connecting cords with the red and white plugs are connected to audio equipment. (Connect these to the LINE IN/OUT jacks of the PCM unit and the audio component). The cords with yellow plugs are connected to the VTR (Connect these between the VIDEO IN/OUT jacks of the PCM and the VTR).
- The cord with orange plugs is connected to the DIGITAL IN/OUT jack of the PCM and other digital equipment.
- Be sure to connect the red plug of the audio

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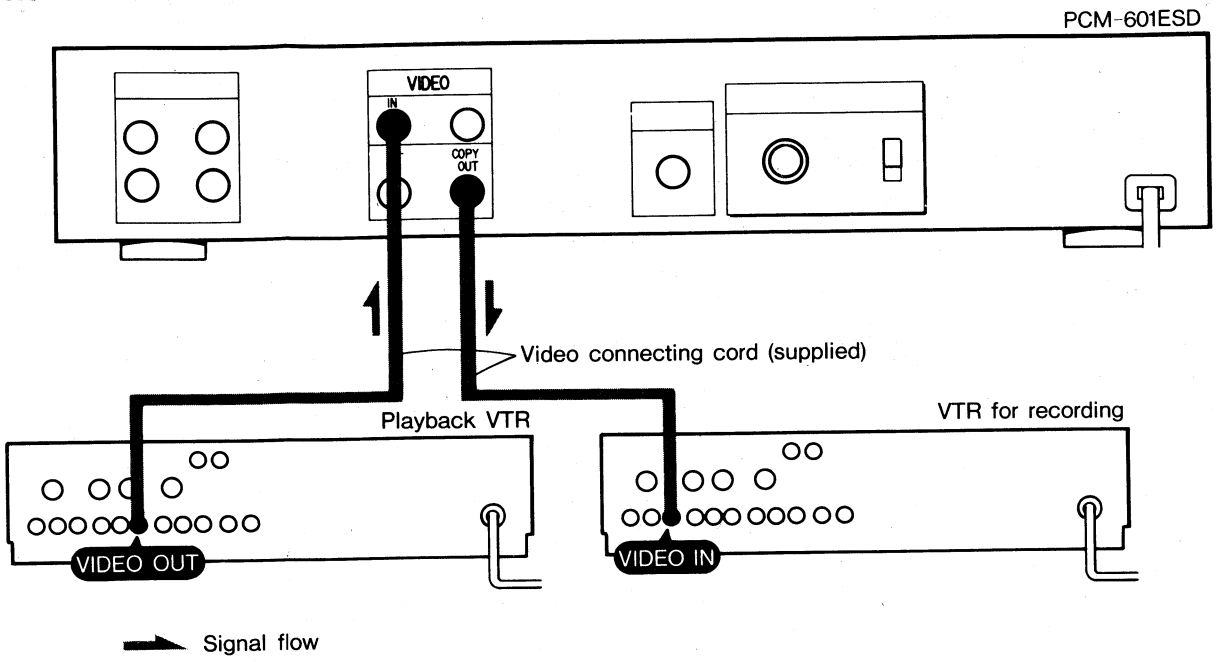
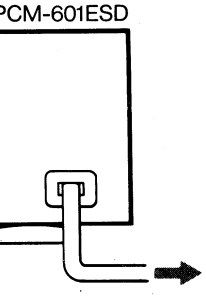
CONNECTION FOR DIGITAL TAPE COPYING



CONNECTION NOTES

- Turn off the amplifier before making connections.
- The supplied connecting cords with the red and white plugs are connected to audio equipment. (Connect these to the LINE IN/OUT jacks of the PCM unit and the audio component). The cords with yellow plugs are connected to the VTR (Connect these between the VIDEO IN/OUT jacks of the PCM and the VTR).
- The cord with orange plugs is connected to the DIGITAL IN/OUT jack of the PCM and other digital equipment.
- Be sure to connect the red plug of the audio connecting cord to the right-channel (R) jack and the white plug to the left-channel (L) jack.
- Insert the connecting plugs firmly since loose connections may cause hum and noise. Also keep connecting cords away from power cords and speaker cords to avoid hum pick-up, and keep cords away from antenna leads, to prevent cause both audio and video reception interference.
- For quality digital audio recording, we recommed that you use Sony Betamax or 8mm equipment.



utlet

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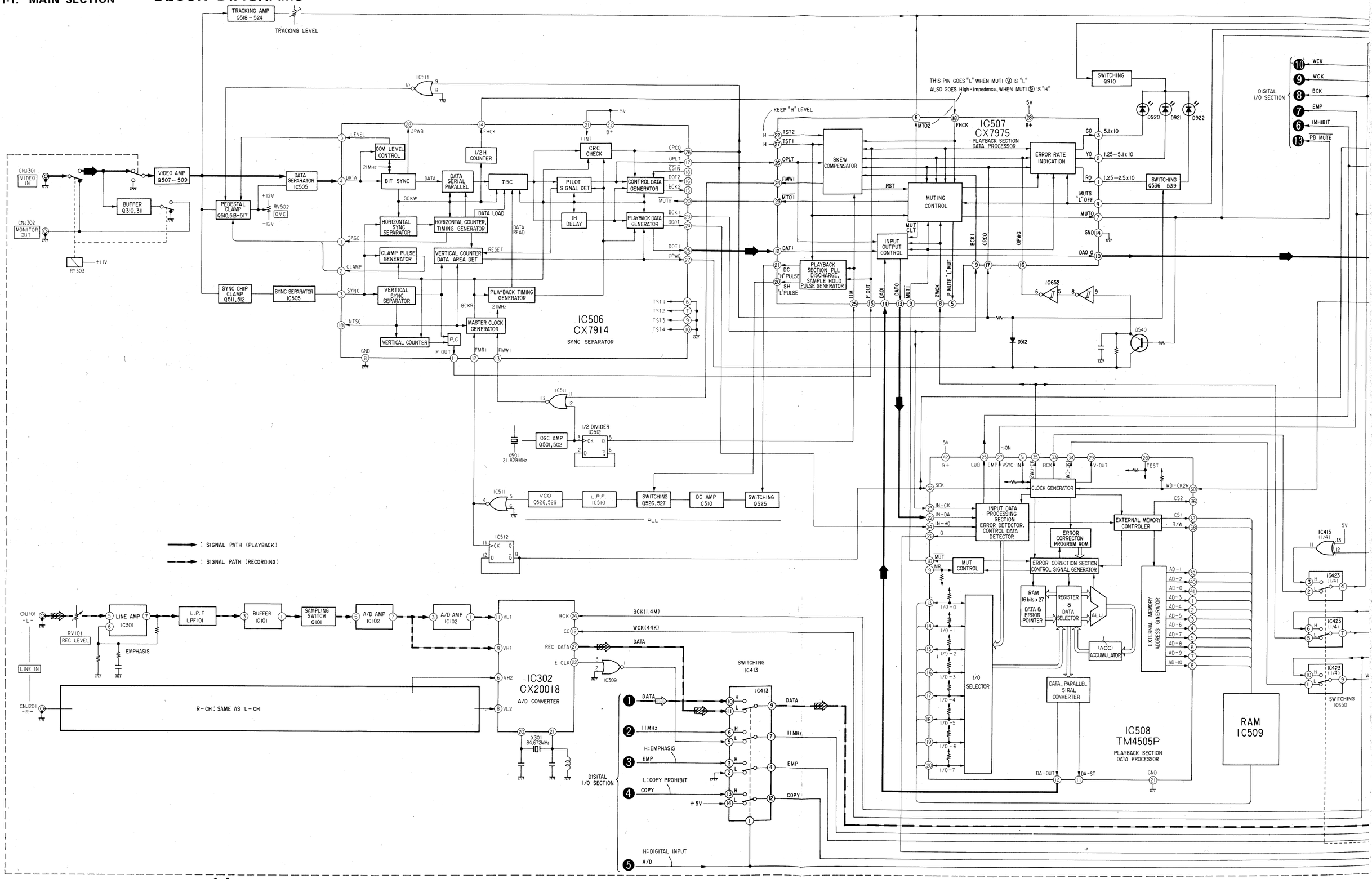
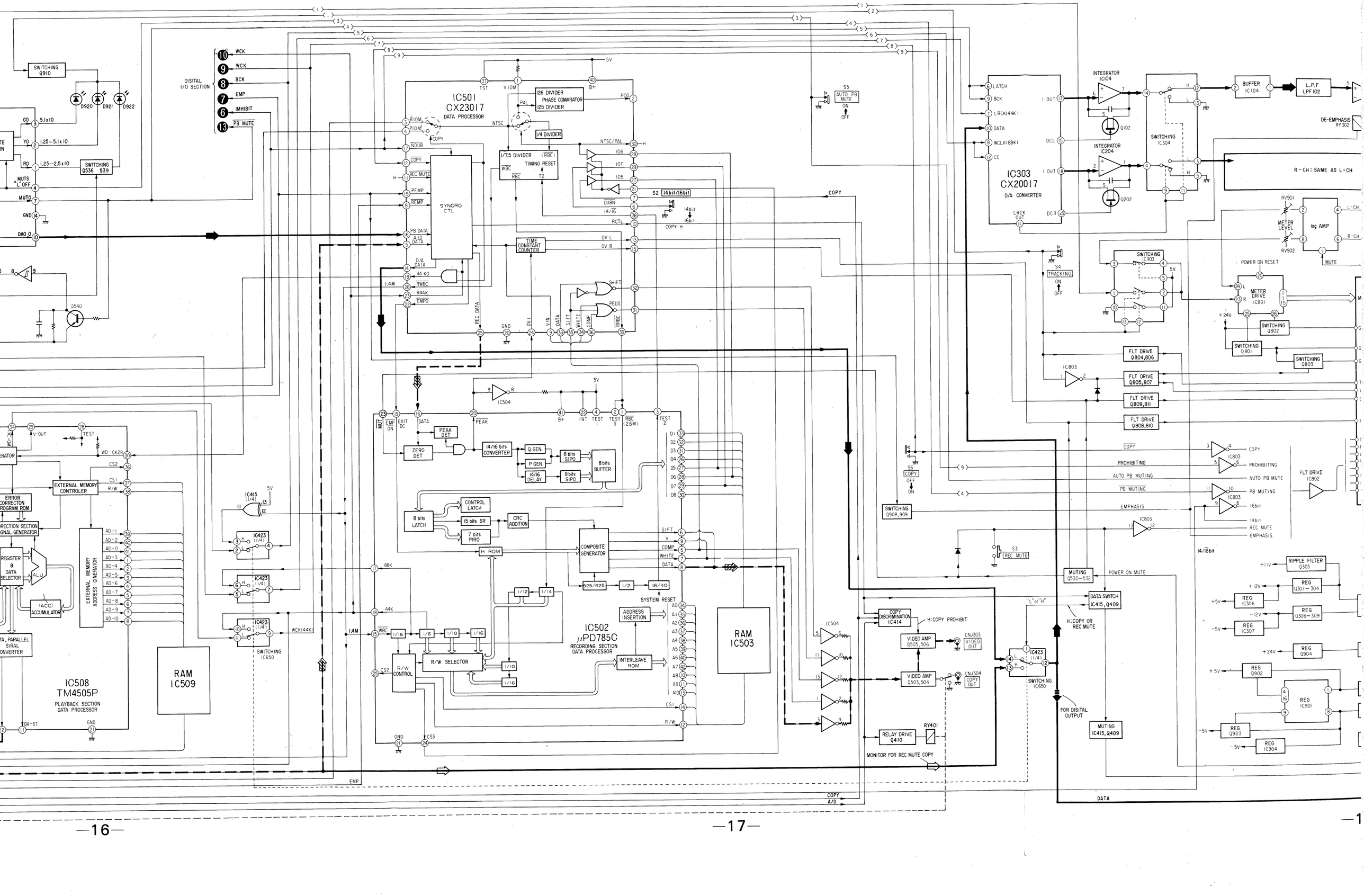
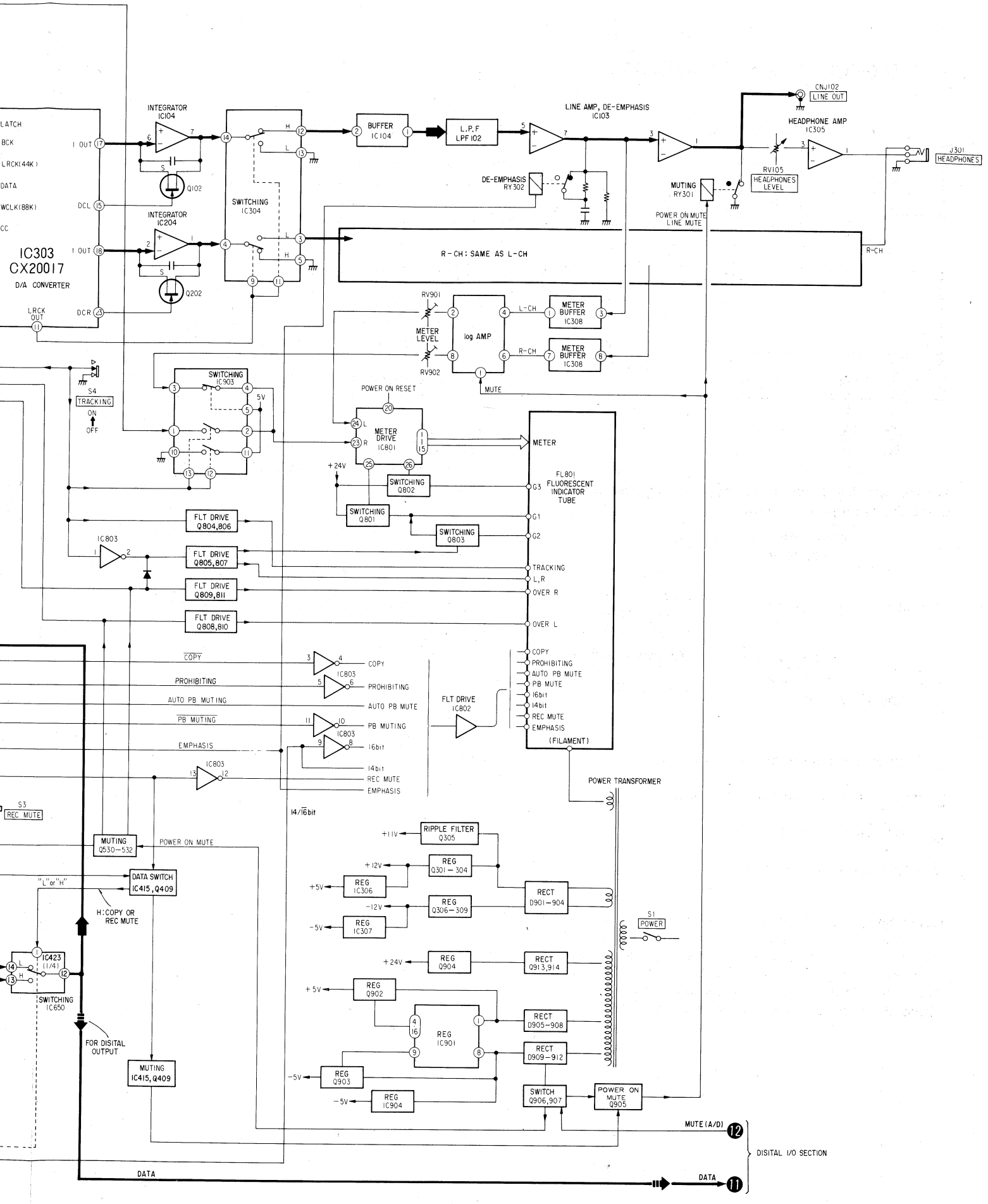
SECTION 1
BLOCK DIAGRAMS

PCM-601ESD PCM-601ESD

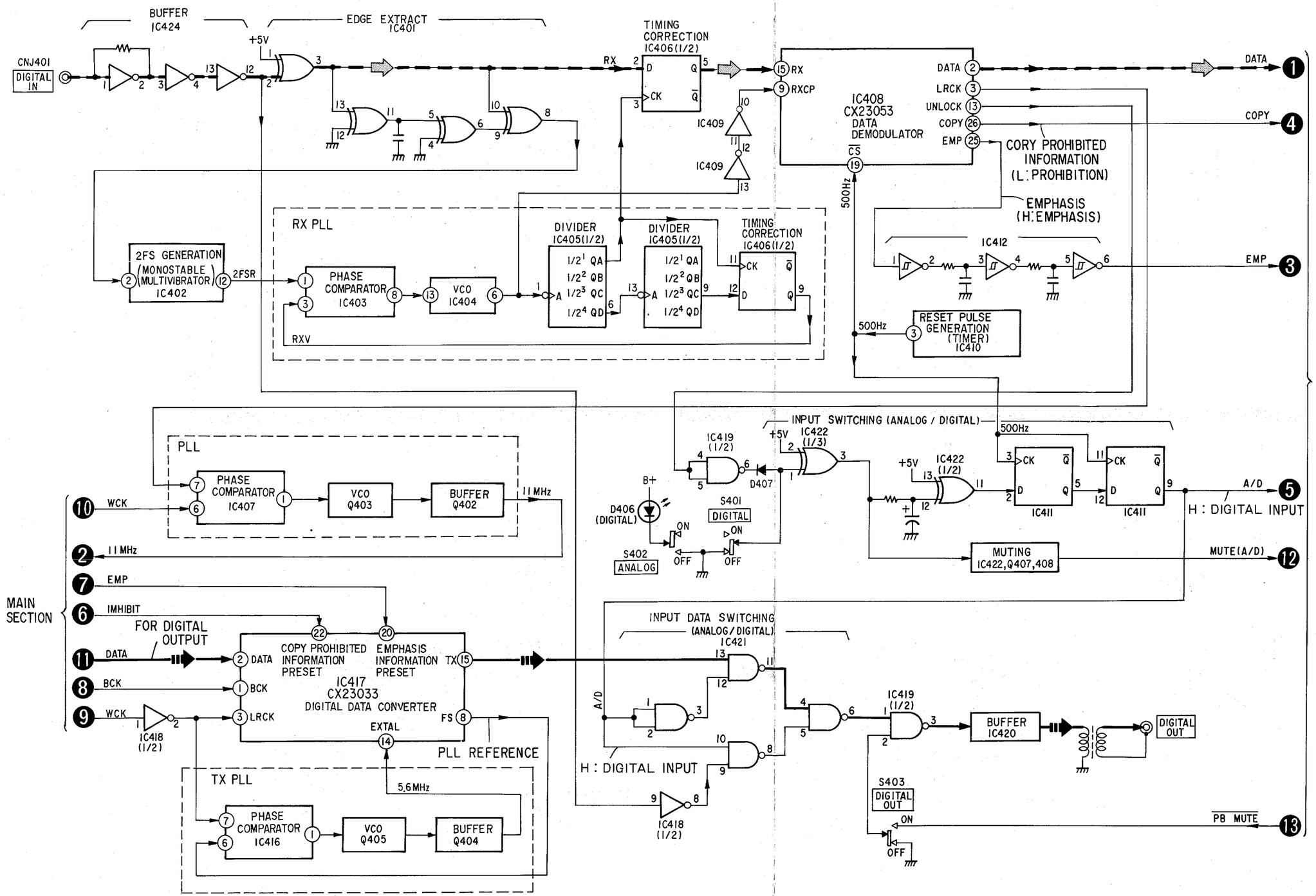
1-1. MAIN SECTION




SWITCHING Q910
D920
D921
D922
SWITCHING Q536 539
DISITAL I/O SECTION
WCK
WCK
BCK
EMP
IMHIBIT
PB MUTE
IC501 CX23017 DATA PROCESSOR
SYNCRO CTL
126 DIVIDER
PHASE COMARATOR
125 DIVIDER
1/4 DIVIDER
1/7.5 DIVIDER
TIMING RESET
TIME CONSTANT COUNTER
S2 14bit/16bit
14bit
16bit
COPY: H
SHIFT
PEDS
44 KΩ
1.4M
RWBC
R44K
EMPO
REC DATA
S5 AUTO PB MUTE
ON
OFF
IC303 CX20017 D/A CONVERTER
LATCH
BCK
LRCK(44K)
DATA
WCLK(88K)
CC
I OUT
DCL
LRCK OUT
DCR
INTEGRATOR IC104
INTEGRATOR IC204
Q102
Q202
SWITCHING IC304
BUFFER IC104
L.P.F LPF102
DE-EMPHASIS RY302
R-CH: SAME AS L-CH
RV901
RV902
METER LEVEL
log AMP
L-CH
R-CH
MUTE
POWER ON RESET
METER DRIVE IC801
+24V
SWITCHING Q802
SWITCHING Q801
SWITCHING Q803
SWITCHING IC903
S4 TRACKING
ON
OFF
FLT DRIVE Q804,806
FLT DRIVE Q805,807
FLT DRIVE Q809,811
FLT DRIVE Q808,810
IC803
S6 COPY
OFF
ON
SWITCHING Q908,909
COPY
PROHIBITING
AUTO PB MUTING
PB MUTING
EMPHASIS
16bit
14bit
REC MUTE
EMPHASIS
FLT DRIVE IC802
S3 REC MUTE
MUTING Q530–532
POWER ON MUTE
DATA SWITCH IC415,Q409
"L" or "H"
H:COPY OR REC MUTE
FOR DISITAL OUTPUT
MUTING IC415,Q409
14/16bit
RIPPLE FILTER Q305
REG Q301–304
REG IC306
REG Q306–309
REG IC307
REG Q904
REG Q902
REG IC901
REG Q903
REG IC904
+11V
+12V
+5V
-12V
-5V
+24V
+5V
-5V
-5V
COPY DISCRIMINATION IC414
H:COPY PROHIBIT
VIDEO AMP Q505,506
VIDEO AMP Q503,504
CNJ303 VIDEO OUT
CNJ304 COPY OUT
RELAY DRIVE Q410
RY401
MONITOR FOR REC MUTE COPY
IC504
IC415 (1/4)
IC423 (1/4)
SWITCHING IC650
IC508 TM4505P PLAYBACK SECTION DATA PROCESSOR
EXTERNAL MEMORY CONTROLER
ERROR CORRECTON PROGRAM ROM
CORRECTION SECTION SIGNAL GENERATOR
REGISTER & DATA SELECTOR
ALU
(ACC) ACCUMULATOR
EXTERNAL MEMORY ADDRESS GENERATOR
D/A, PARALLEL SIRAL CONVERTER
RAM IC509
IC502 μPD785C RECORDING SECTION DATA PROCESSOR
PEAK DET
ZERO DET
14/16 bits CONVERTER
Q GEN
P GEN
14/16 DELAY
8 bits SIPO
8 bits BUFFER
CONTROL LATCH
15 bits SR
7 bits PIRO
CRC ADDITION
8 bits LATCH
H ROM
COMPOSITE GENERATOR
625/625
1/2
16/40
1/12
1/14
SYSTEM RESET
ADDRESS INSERTION
INTERLEAVE ROM
R/W SELECTOR
R/W CONTROL
1/6
1/10
1/16
88K
44K
WCK(44K)
RAM IC503
COPY
COPY A/D
EMP
DATA


INTEGRATOR IC104
BUFFER IC104
L.P.F LPF102
LINE AMP, DE-EMPHASIS IC103
CNJ102 LINE OUT
HEADPHONE AMP IC305
J301 HEADPHONES
RV105 HEADPHONES LEVEL
DE-EMPHASIS RY302
MUTING RY301
POWER ON MUTE LINE MUTE
Q102
SWITCHING IC304
INTEGRATOR IC204
Q202
IC303 CX20017 D/A CONVERTER
R-CH: SAME AS L-CH
R-CH
RV901
RV902
METER LEVEL
log AMP
L-CH
R-CH
METER BUFFER IC308
MUTE
SWITCHING IC903
S4 TRACKING ON OFF
POWER ON RESET
METER DRIVE IC801
METER
FL801 FLUORESCENT INDICATOR TUBE
SWITCHING Q802
SWITCHING Q801
SWITCHING Q803
FLT DRIVE Q804,806
FLT DRIVE Q805,807
FLT DRIVE Q809,811
FLT DRIVE Q808,810
IC803
TRACKING
L,R
OVER R
OVER L
COPY
PROHIBITING
AUTO PB MUTE
PB MUTE
16bit
14bit
REC MUTE
EMPHASIS
(FILAMENT)
FLT DRIVE IC802
AUTO PB MUTING
PB MUTING
S3 REC MUTE
14/16bit
POWER TRANSFORMER
MUTING Q530-532
POWER ON MUTE
DATA SWITCH IC415, Q409
"L" or "H"
H: COPY OR REC MUTE
IC423 (1/4)
SWITCHING IC650
FOR DISITAL OUTPUT
MUTING IC415, Q409
RIPPLE FILTER Q305
REG Q301-304
REG IC306
REG Q306-309
REG IC307
RECT D901-904
S1 POWER
REG Q904
RECT D913,914
REG Q902
REG IC901
RECT D905-908
RECT D909-912
REG Q903
REG IC904
SWITCH Q906,907
POWER ON MUTE Q905
MUTE (A/D)
DISITAL I/O SECTION
DATA

1-2. DIGITAL I/O SECTION



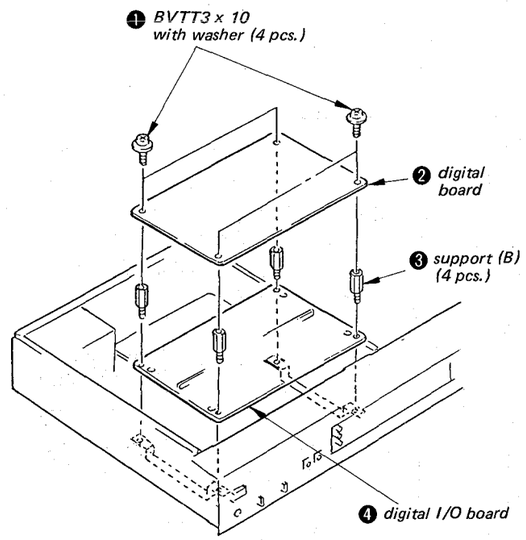
: SIGNAL PATH (PLAY BACK)
: SIGNAL PATH (RECORDING)

SECTION 2
DISASSEMBLY

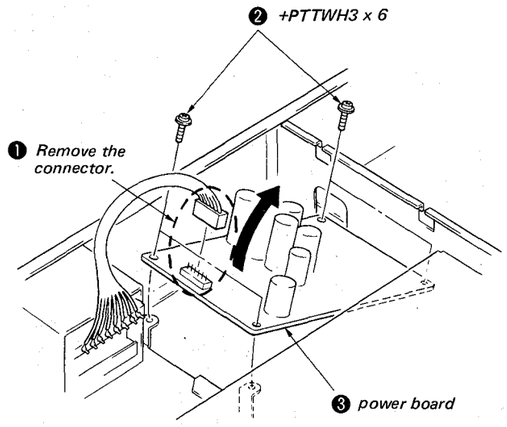
Note: Follow the disassembly procedure in the numerical order given.

- **CASE**
  Remove by taking out 4 case set screws of both sides.
- **BOTTOM PLATE**
  Remove by taking out 9 screws (+BVTT3 x 6).

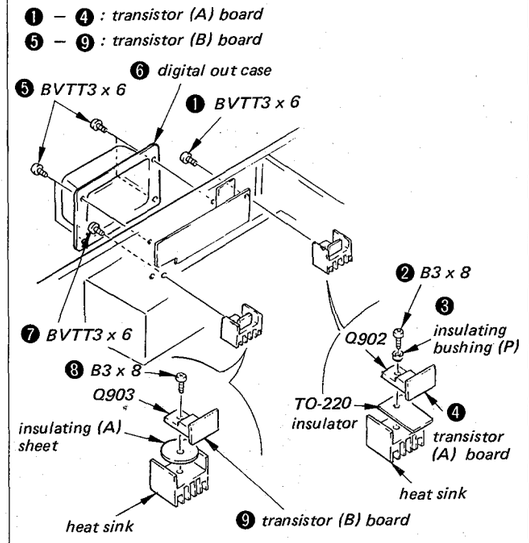
DIGITAL BOARD/DIGITAL I/O BOARD



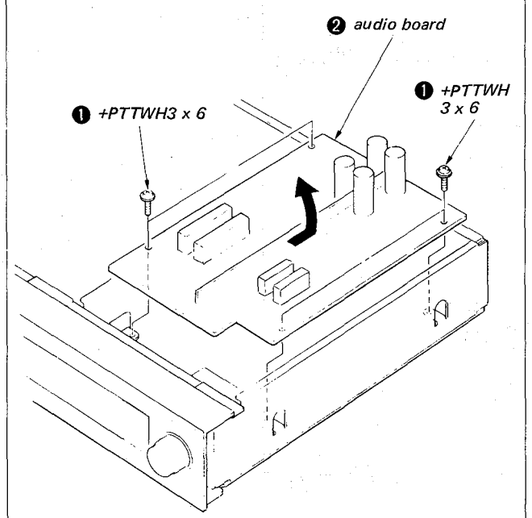
POWER BOARD



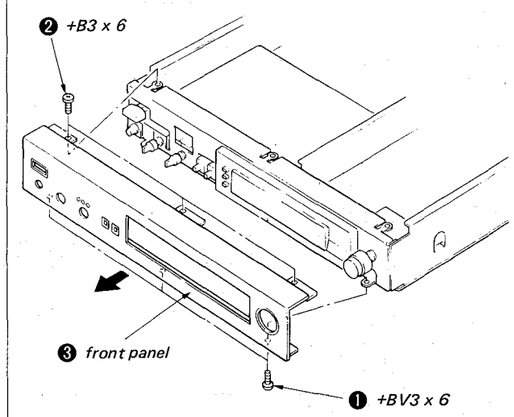
TRANSISTOR BOARDS



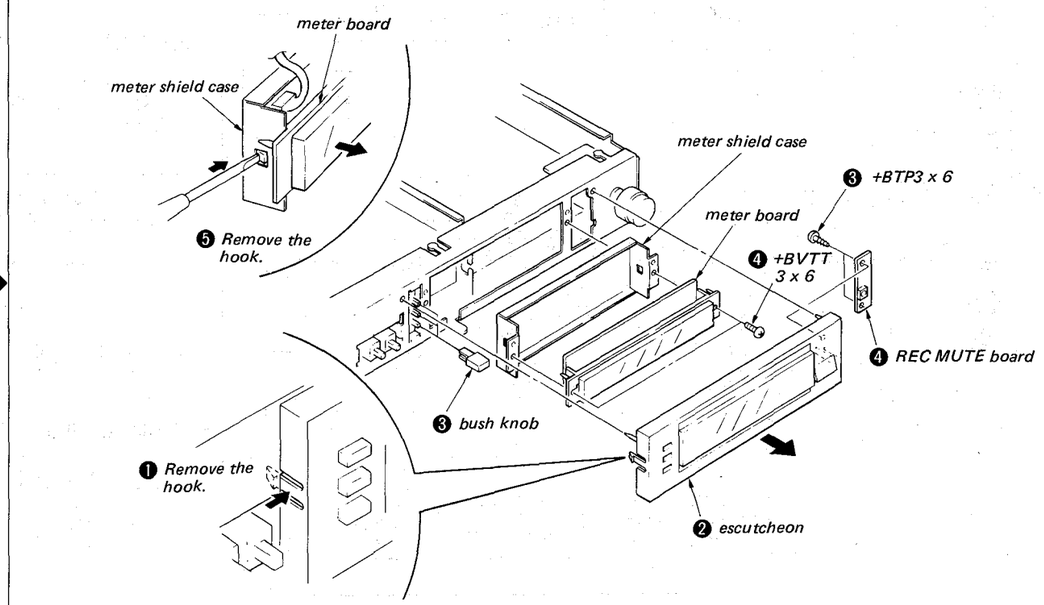
AUDIO BOARD



FRONT PANEL



METER BOARD



SECTION 3
ELECTRICAL ADJUSTMENTS

- Switch Position (unless otherwise specified)
  INPUT . . . . . ANALOG
  AUTO PB MUTE . . . . . ON
  COPY . . . . . OFF
  TRACKING . . . . . OFF
  REC RESOLUTION . . . . . 16 bit
  HEADPHONES LEVEL . . . . MAX
  OVC control . . . . . center click click

- E-E mode:
  Short the terminals VIDEO IN and VIDEO OUT of the set.

- INPUT

terminal	LINE IN	VIDEO IN
impedance	10 kΩ	75 Ω
level	0.24 V (−10 dB)	1 Vp-p

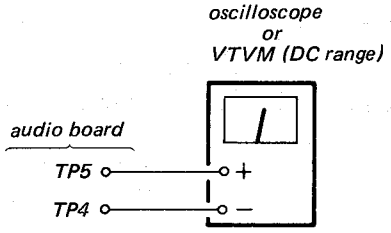
- OUTPUT

terminal	LINE OUT	VIDEO OUT
impedance	47 kΩ	75 Ω
level	0.24 V (−10 dB)	1 Vp-p

Adjust 30 minutes or more after the power switch is on for avoiding the drift according to the thermal condition.

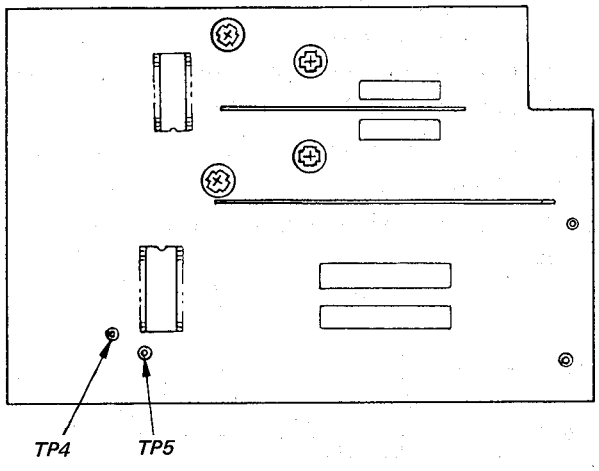
−5V Voltage Adjustment

Procedure:

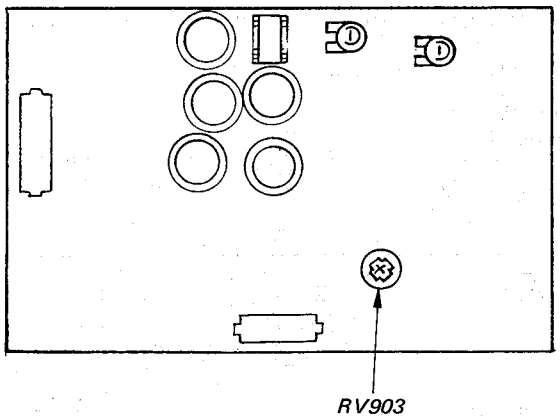


1. Connect an oscilloscope or a VTVM (DC range) to TP4 and TP5 on audio board.
2. Adjust RV903 so that the reading on the oscilloscope or the VTVM is 0 ±10 mV.

Connection: audio board

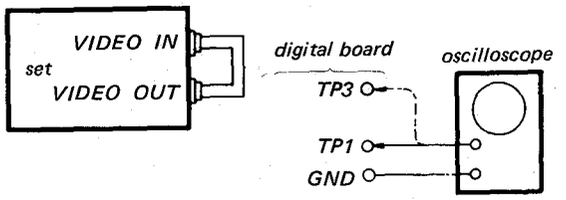


Adjustment Location: power board

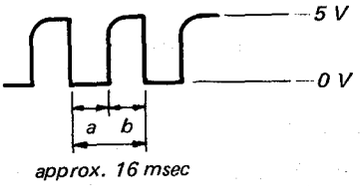


VCO Coil Adjustment

Procedure:

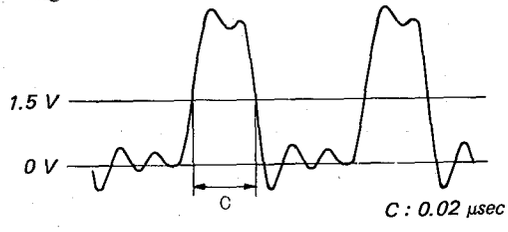


1. Set to the E-E mode and connect an oscilloscope to TP1 and GND on the digital board.
2. Adjust L501 so that the duty ratio is 50%.



approx. 16 msec
a : b = 1 : 1 (duty ratio = 50%)

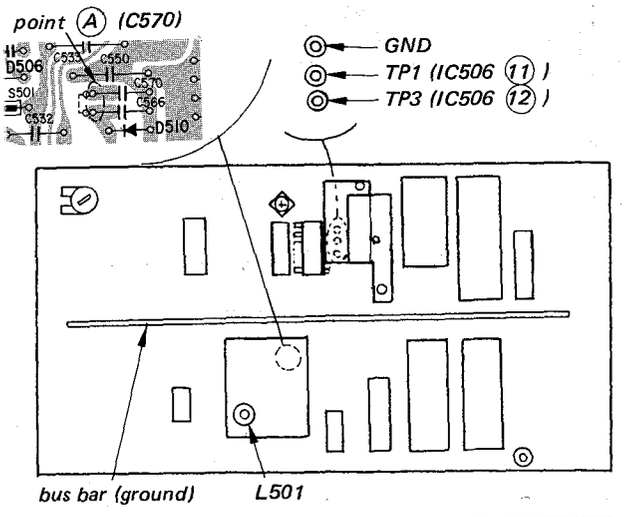
3. Confirm that the duty ratio is 50% after switching the COPY siwtch OFF → ON → OFF.
4. Connect the oscilloscope to TP3 and GND on the digital board.
5. Confirm that the duty ratio is like the following figure.



C : 0.02 µsec or less

6. When C is 0.02 µsec or above, connect C570 by soldering the point (A) of the pattern.
   And again, confirm the waveform in the item 5.

Adjustment Location: digital board

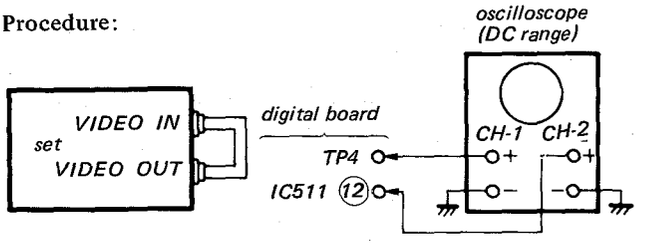


Skew Adjustment

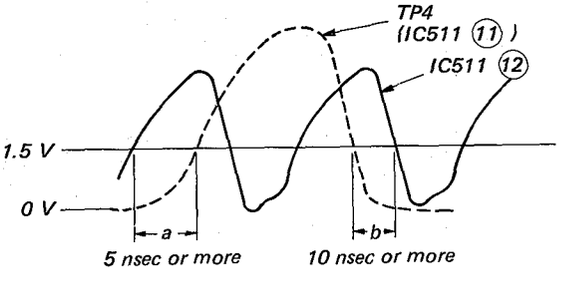
Condition:

- Make the ground levels of CH-1 and CH-2 on the dual trace oscilloscope same.
- Trigger: CH-1

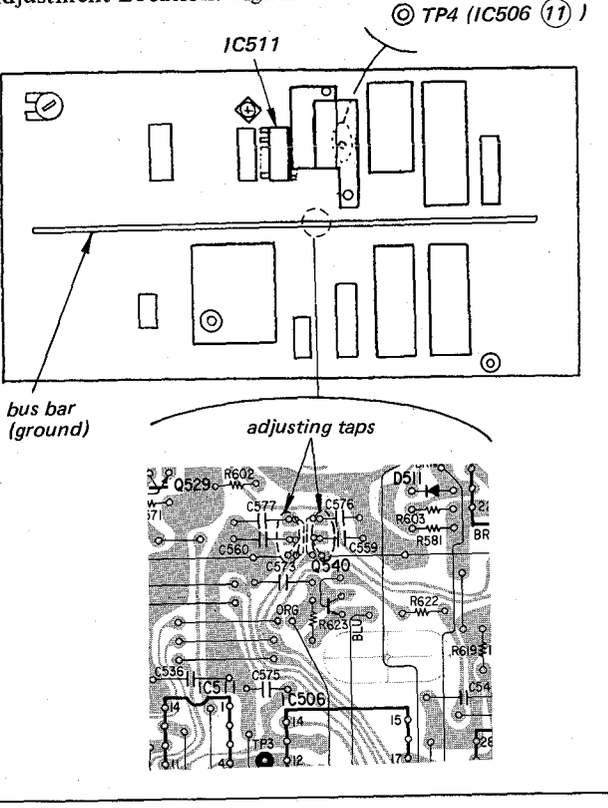
Procedure:



1. Set to the E-E mode.
2. Connect the oscilloscope to TP4 (IC511 (11)) and IC511 (12) .
3. Adjust the taps so that the waveforms on the oscilloscope are like the following figure.

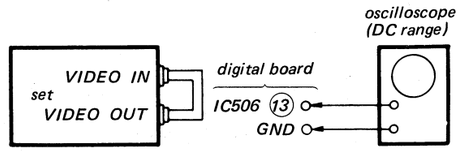


Adjustment Location: digital board

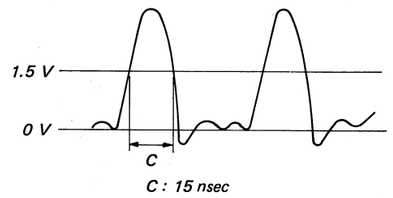


FMWI Adjustment

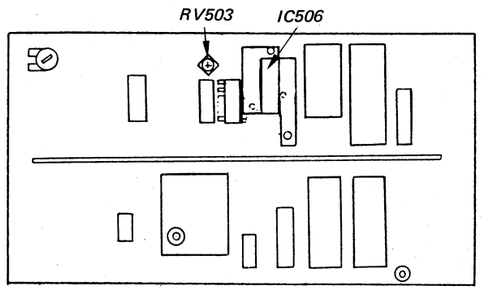
Procedure:



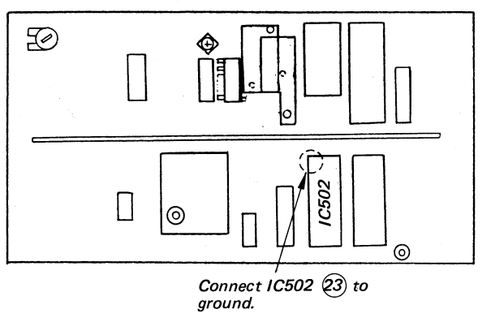
1. Set to the E-E mode.
2. Connect an oscilloscope to IC506 (13) .
3. Adjust RV503 so that the waveform on the oscilloscope is like the following figure.



Adjustment Location: digital board



[DIGITAL Board]

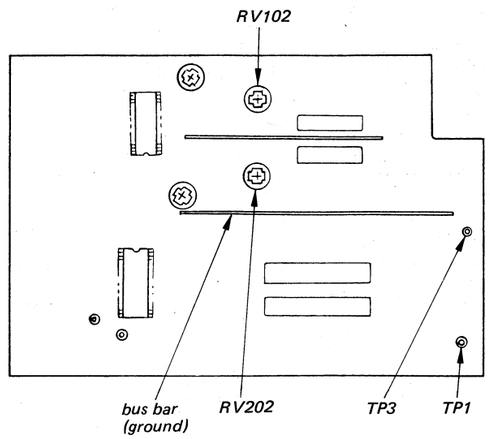


A/D Offset Adjustment

Procedure:

1. Connect IC502 (23) to ground. (Digital board) (For sending the data no sound condition to the A/D converter IC303.)
2. Set to the E-E mode. Connect an oscilloscope or a VTVM (DC range) to TP1 (L-CH), TP3 (R-CH) and the bus bar (ground point).
3. Confirm and remenber the reading on the oscilloscope or the VTVM is 0.7 ±0.5 V.
   . . . . . A/D offset value
4. Adjust RV102 (L-CH) and RV202 (R-CH) so that the readings on the oscilloscope or the VTVM is +10 ±5 mV dc against the A/D offset value in the condition REC LEVEL is minimum.
5. After adjustment, disconnect the lead in between IC502 (23) and ground.

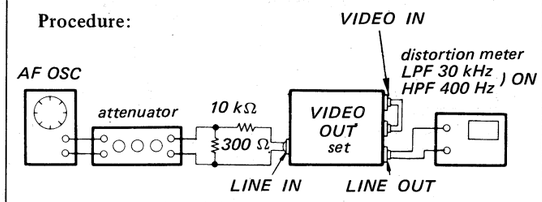
Adjustment Location: audio board



A/D Distortion Adjustment

This adjustment needs an low-distortion audio frequency oscillator and low-distortion measuring equipments.

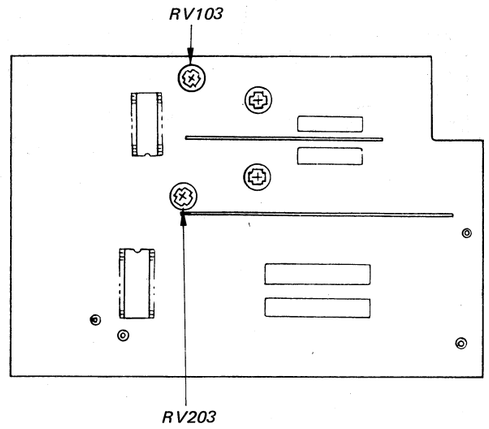
Procedure:



1. Set to the E-E mode. Input the 1 kHz, 0 dB signal to the LINE IN terminal and connect an distortion meter to the LINE OUT terminal.
2. Turn the REC LEVEL knob gradually so that the OVER indicator of the level meter lights up.
3. Make the input level −0.5 to −1 dB with the attenuator.
   The OVER indicator goes out.
4. Set the level of the distortion meter, and make it the DISTORTION mode.
5. Adjust RV103 (L-CH) and RV203 (R-CH) so that the distortion is minimum.

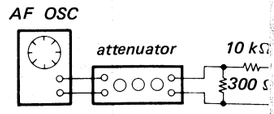
Specification:
−84 dB or less

Adjustment Location: audio board



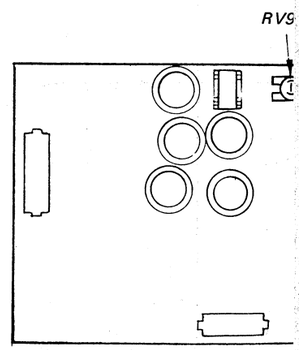
Peak Meter Adjustment

Procedure:



1. Set to the E-E mode. Input th
2. Turn the REC LEVEL knob g
   OVER indicator of the level m
3. Make the input level −0.5
   attenuator.
   The OVER indicator goes out.
4. Adjust RV901 (L-CH) and RV
   the reading on the level meter i

Adjustment Location: power boa



tortion audio
on measuring

O IN

distortion meter
LPF 30 kHz
HPF 400 Hz) ON

OUT

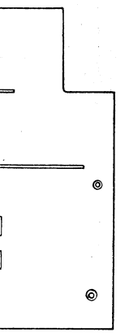
Hz, 0 dB signal
t an distortion

ly so that the
ghts up.

dB with the

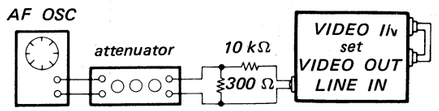
, and make it

R-CH) so that



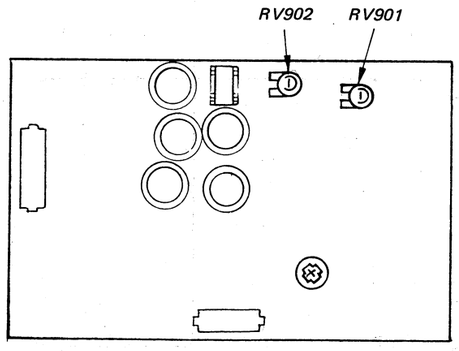
Peak Meter Adjustment

Procedure:



1. Set to the E-E mode. Input the 1 kHz 0 dB signal.
2. Turn the REC LEVEL knob gradually so that the OVER indicator of the level meter lights up.
3. Make the input level −0.5 to −1 dB with the attenuator.
   The OVER indicator goes out.
4. Adjust RV901 (L-CH) and RV902 (R-CH) so that the reading on the level meter is 0 dB.

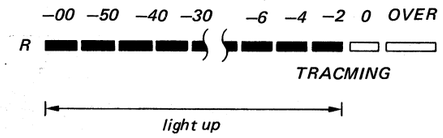
Adjustment Location: power board



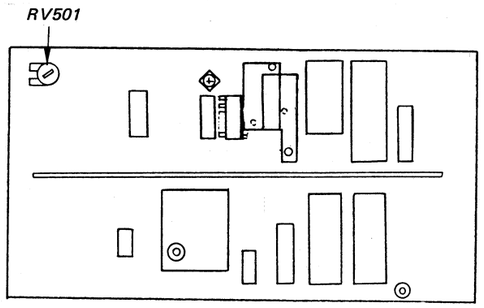
Tracking Level Adjustment

Procedure:

1. Set to the E-E mode. Put on the tracking switch.
2. Adjust RV501 so that the level meter indicates the following figure.



Adjustment Location: digital board



SECTION 4
DIAGRAMS

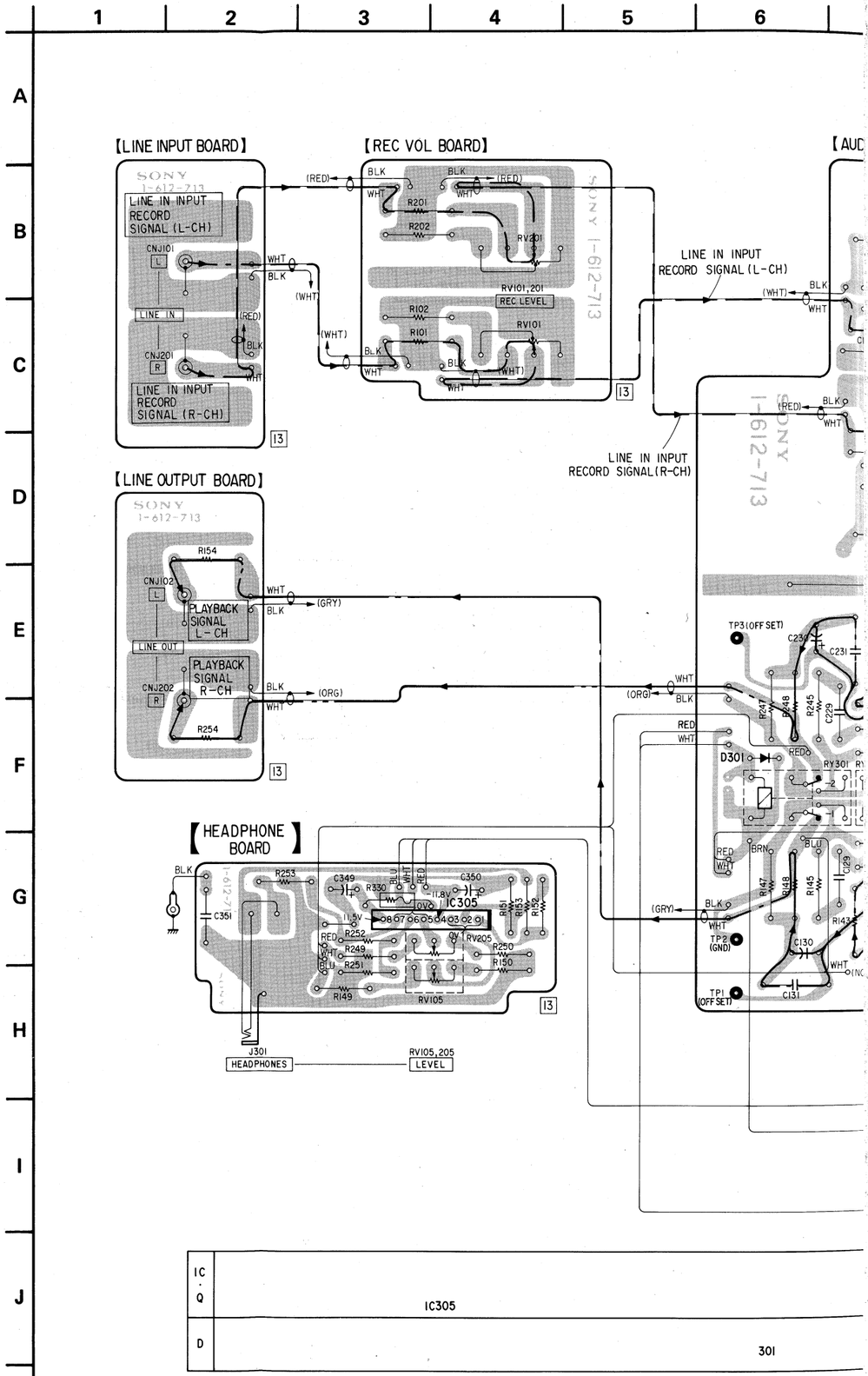
4-1. AUDIO SECTION MOUNTING DIAGRAM

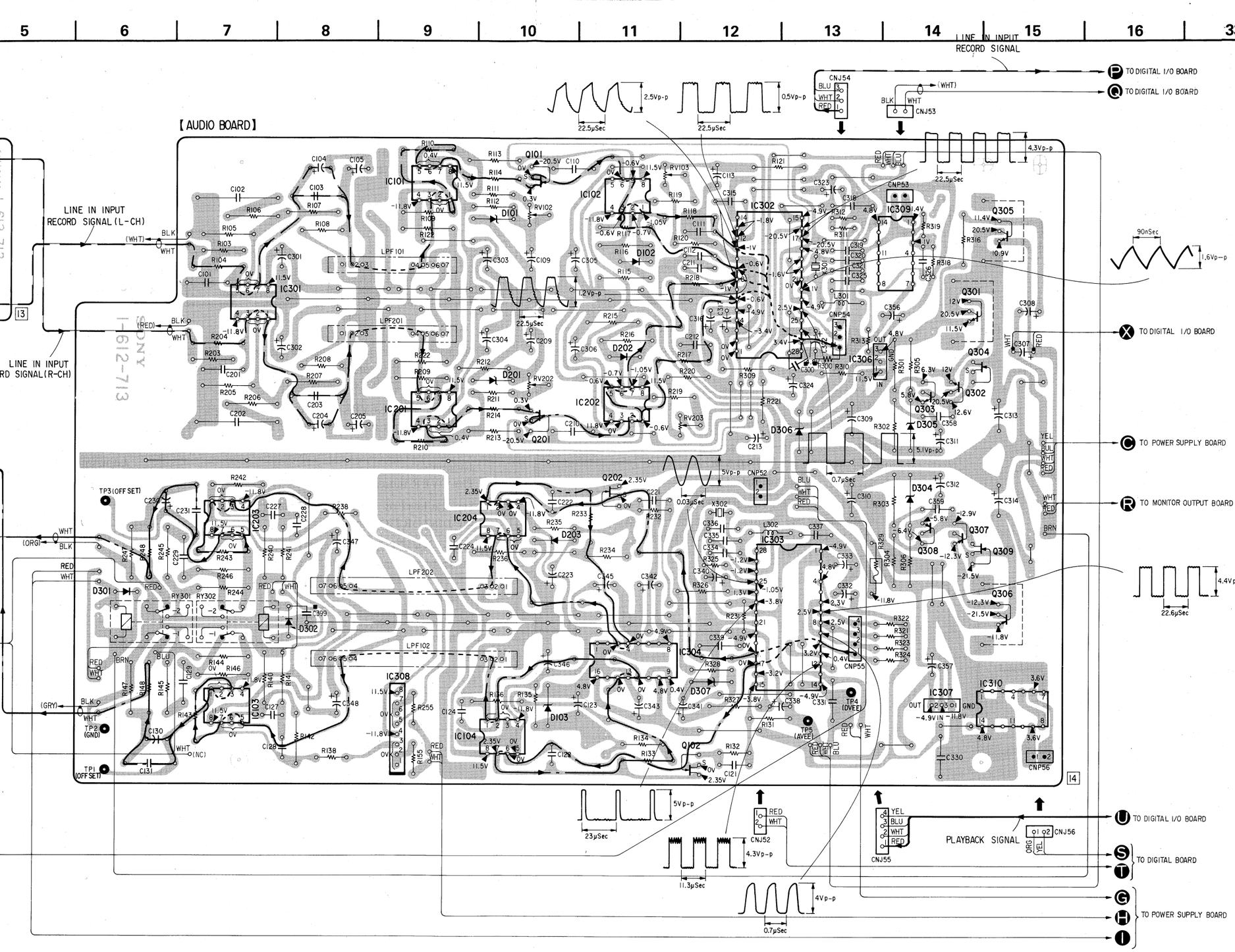
• See page 56 for Semiconductor Lead Layouts.

Note:

- Color code or sleeving over the end of the jacket.

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- Signal path.
- ●——▶ : PB signal.
- ●—·—▶ : L-CH PB signal.
- ●—··—▶ : R-CH PB signal.
- ●—▶— : REC signal.



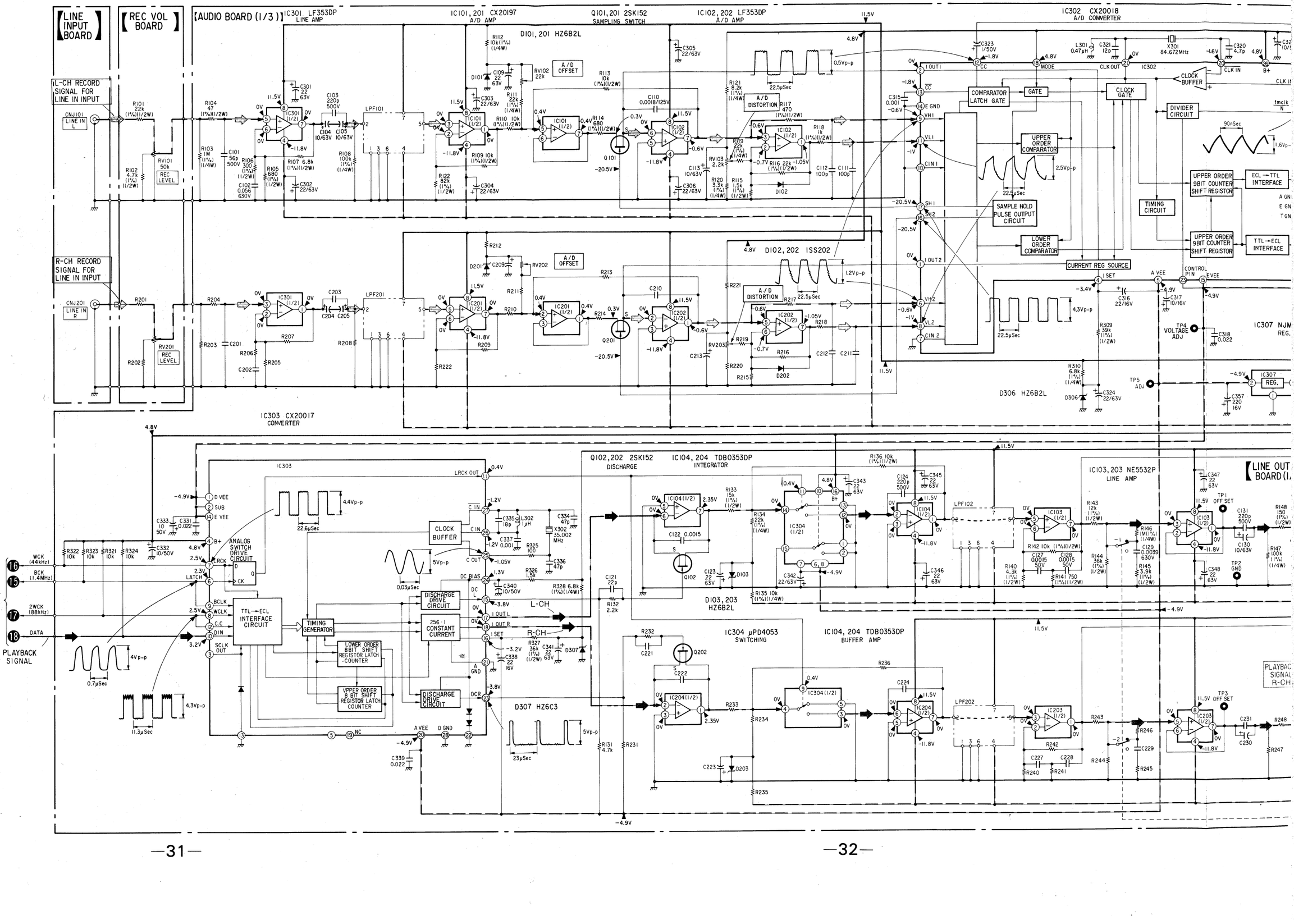


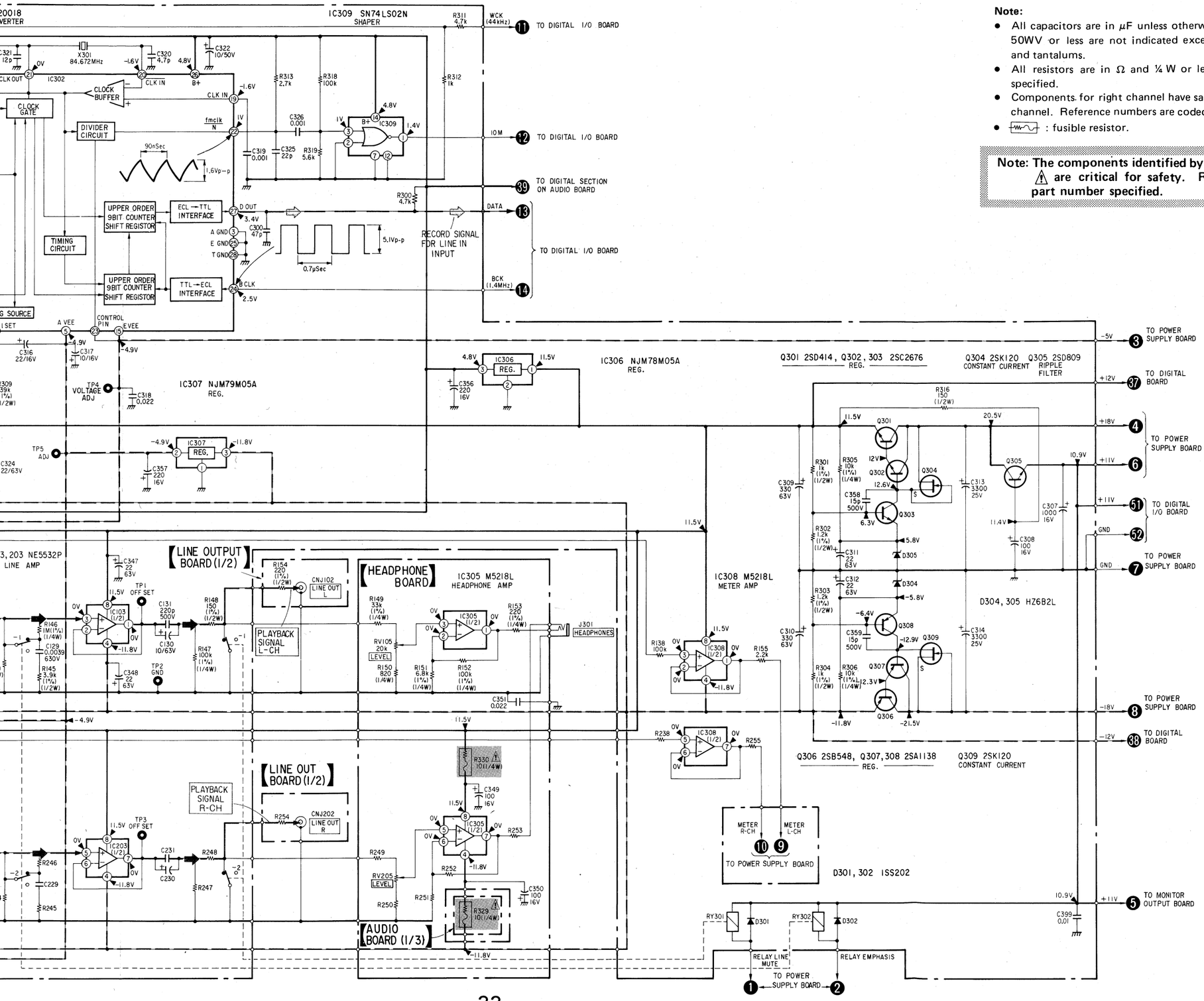
IC	101	102	201	202	203	301	302	303	304	305	306	307	308	309
D	101	102	201	202	203	301	302		304	305	306	307		

IC	103	104	201	202	203	204	301	302	303	304	305	306	307	308	309
Q	101	102	201	202	203	204	301	302	303	304	305	306	307	308	309

IC	310
Q	310

4-2. AUDIO SECTION SCHEMATIC DIAGRAM





Note:

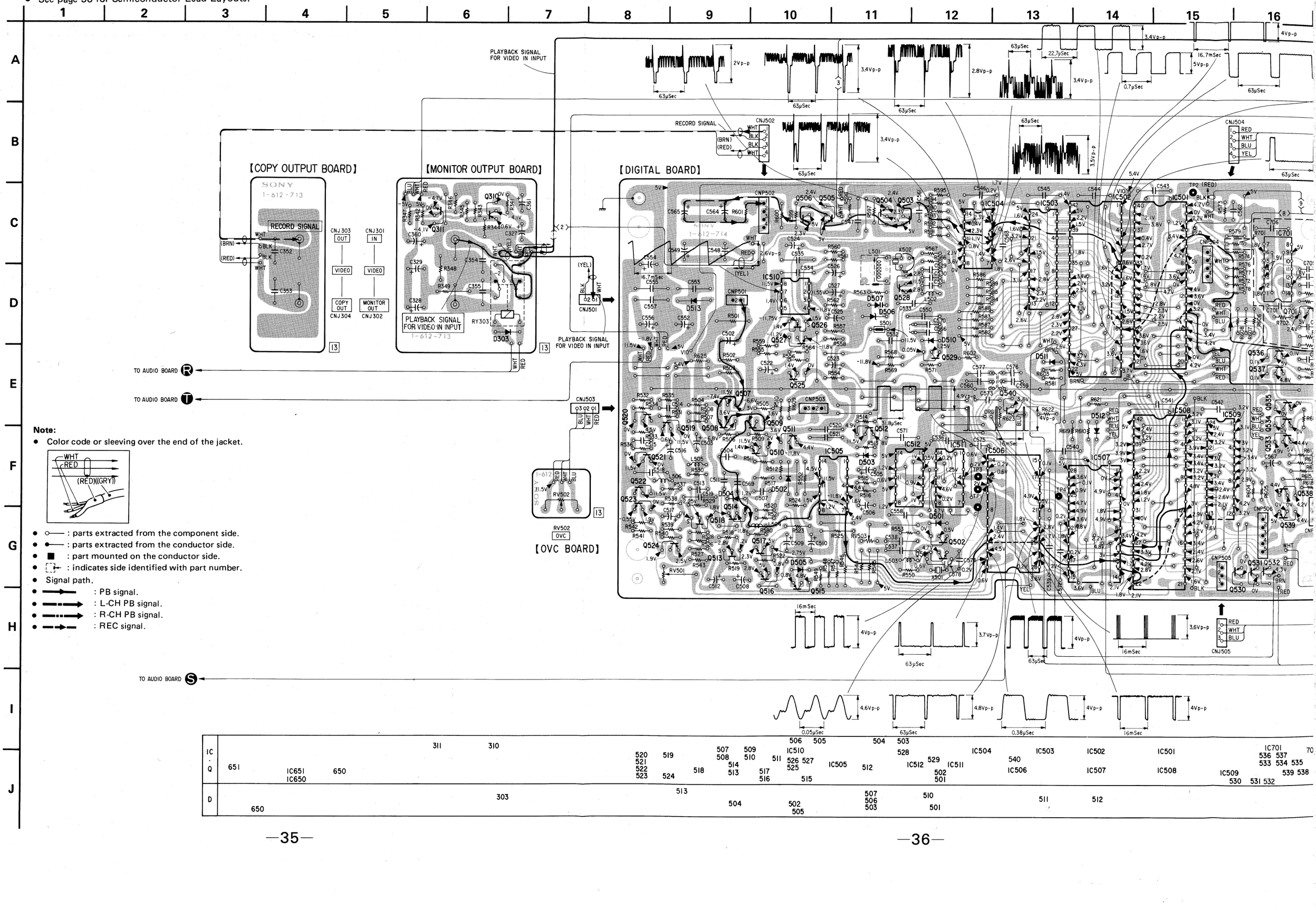
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- : fusible resistor.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- : B+ bus.
- : B− bus.
- : adjustment for repair.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
- Waveforms are taken to ground in E-E mode by using oscilloscope.
- Signal path.
- : PB signal.
- : L-CH PB signal.
- : R-CH PB signal.
- : REC signal.

4-3. DIGITAL SECTION MOUNTING DIAGRAM

• See page 56 for Semiconductor Lead Layouts.

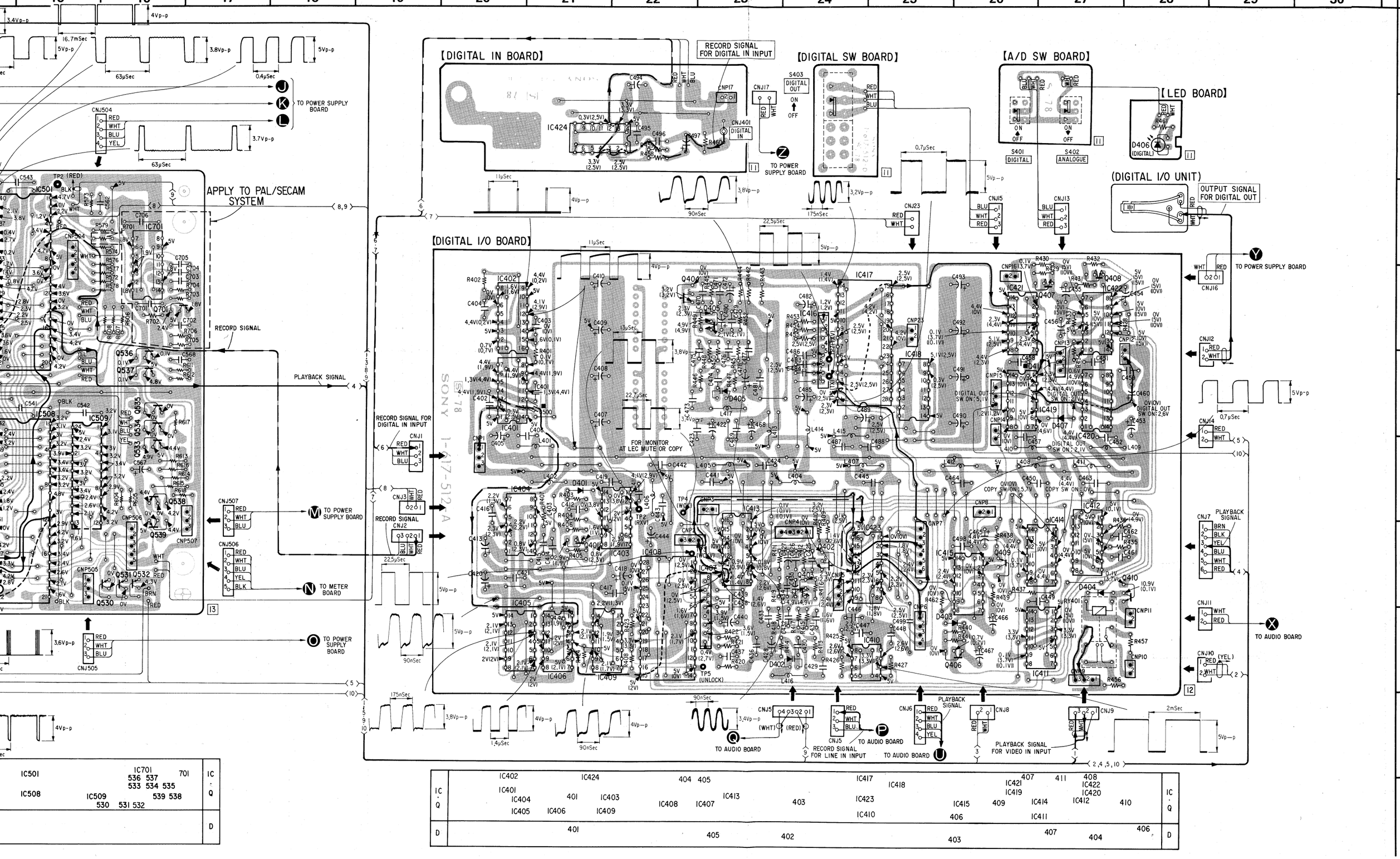


Note:

- Color code or sleeving over the end of the jacket.

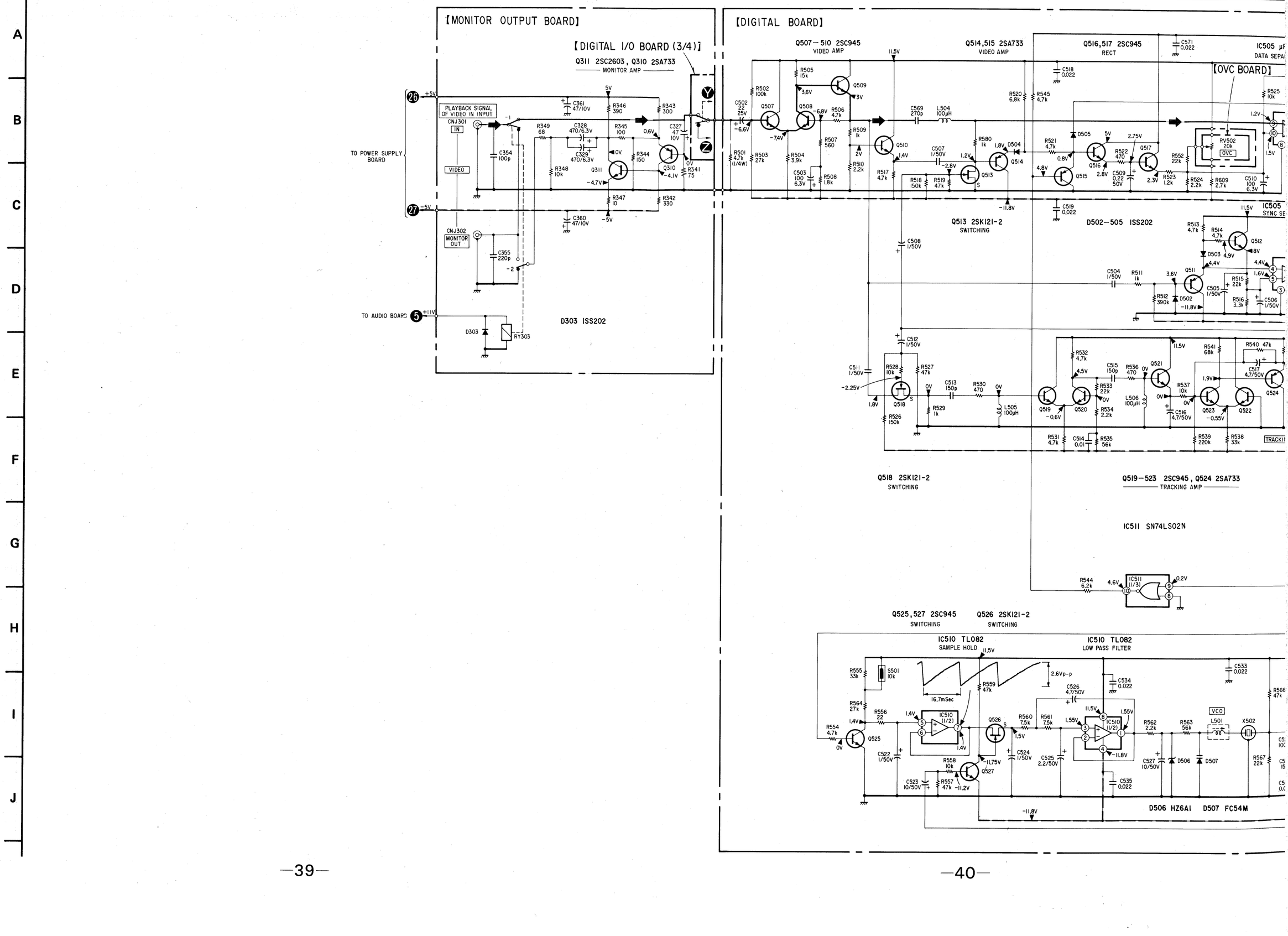
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ⬚ : indicates side identified with part number.
- Signal path.
- ——→ : PB signal.
- —·—→ : L-CH PB signal.
- —··—→ : R-CH PB signal.
- —→— : REC signal.

IC・Q	D
651	650
IC651 IC650	
650	
311	
310	303
520 521 522 523	
519 524	513
518	
507 508 514 513	504
509 510 517 516	
511	
IC510 506 505 526 527 525 515	502 505
IC505	
512	507 506 503
504	
503 528	
IC512 529 502 501	510 501
IC511	
IC504	
540 IC506	
IC503	511
IC502	512
IC507	
IC501	
IC508	
IC509 530	
531 532	
IC701 536 537 533 534 535 539 538	
70	



IC · Q	IC501	IC701 701 536 537 533 534 535	IC508	IC509 530 531 532	539 538	IC · Q
D						D

IC · Q	IC402 IC401 IC404 IC405	IC424 401 IC406	IC403 IC409	404 405 IC408	IC407	IC413	403	IC417 IC423 IC410	IC418	IC421 IC419 IC415 406	407 409	411 IC414	408 IC422 IC420 IC412	410	IC · Q
D		401			405		402		403			407		406 404	D


【MONITOR OUTPUT BOARD】
【DIGITAL I/O BOARD (3/4)】
Q311 2SC2603, Q310 2SA733
MONITOR AMP
TO POWER SUPPLY BOARD
PLAYBACK SIGNAL OF VIDEO IN INPUT
CNJ301
IN
VIDEO
CNJ302
MONITOR OUT
TO AUDIO BOARD
D303 ISS202
【DIGITAL BOARD】
Q507–510 2SC945
VIDEO AMP
Q514,515 2SA733
VIDEO AMP
Q516,517 2SC945
RECT
【OVC BOARD】
OVC
Q513 2SK121-2
SWITCHING
D502–505 ISS202
Q518 2SK121-2
SWITCHING
Q519–523 2SC945, Q524 2SA733
TRACKING AMP
IC511 SN74LS02N
Q525,527 2SC945
SWITCHING
Q526 2SK121-2
SWITCHING
IC510 TL082
SAMPLE HOLD
IC510 TL082
LOW PASS FILTER
VCO
D506 HZ6AI
D507 FC54M

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

IC506 CX7914
PLAYBACK SECTION SYNC SEPARATOR

IC507 CX7975
PLAYBACK SECTION DATA PROCESS

Q514,515 2SA733
VIDEO AMP

Q516,517 2SC945
RECT

IC505 μPC319
DATA SEPARATOR

【OVC BOARD】

Q513 2SK121-2
SWITCHING

D502–505 ISS202

IC505 μPC319
SYNC SEPARATOR

Q519–523 2SC945, Q524 2SA733
TRACKING AMP

IC511 SN74LS02N

Q526 2SK121-2
SWITCHING

IC510 TL082
SAMPLE HOLD

IC510 TL082
LOW PASS FILTER

D506 HZ6AI D507 FC54M

Q528 2SC945 Q529 2SC2724
VCO SWITCHING

D510 ISS202

Q501,502 2SC2724
OSC

IC512 SN74LS74AN
D-FLIP-FLOP

Q540 2SC945
SKEW COMPENSATOR

【AUDIO BOARD (1/3)】

IC310 μPD4584BC
SHAPER

IC508

IC507 CX7975
PLAYBACK SECTION
DATA PROCESS

Q533–535 2SC945
LED DRIVE

ERROR RATE INDICATION CIRCUIT

MUTING CONTROL CIRCUIT

IN, OUT CONTROL CIRCUIT

TO LED BOARD

AUTO PB MUTE

PB MUTING

TO METER BOARD

Q540 2SC945
SKEW COMPENSATOR

【AUDIO BOARD (1/3)】

TO AUDIO BOARD

IC310 μPD4584BC
SHAPER

D512 ISS202

Q536 2SC945 INTEGRATOR

Q537 2SC945 SWITCHING

Q538,539 2SA733

【DIGITAL I/O BOARD (2/4)】

【DIGITAL I/O BOARD (1/4)】

TO POWER SUPPLY BOARD

TO METER BOARD

REC MUTE

COPY

EMPHASIS

COPY PROHIBITING

PLAYBACK SIGNAL FOR VIDEO IN INPUT

RECORD SIGNAL

PLAYBACK SIGNAL

OUTPUT SIGNAL FOR DIGITAL OUT

IC501 CX23017A
DATA PROCESS

SYNCRO CTL

TIME CONSTANT COUNTER

126 DIVIDER

PHASE COMPARATOR

125 DIVIDER

1/4 DIVIDER

1/7.5 DIVIDER

TIMING RESET

IC508 TM4505P
PLAYBACK DATA PROCESS

IC509 MB8416A-15PSK
RAM

IC504 SN7406
BUFFER

IC502 μPD785C
REC, DATA PROCESS

PEAK DETECTOR

ZERO DETECTOR

14/16 BIT CONVERTER

Q GEN

P GEN

14/16 DELAY

8 BIT SIPO

8 BIT BUFFER

CLOCK GENERATOR

INPUT DATA PROCESSING SECTION, ERROR DETECTION CONTROL DATA DETECTION

ROM, PROGRAM FOR THE CONTROL OFF THE ERROR CORRECTION SECTION

CORRECTION SECTION CONTROL SIGNAL GENERATOR

EXTERNAL MEMORY CONTROL SECTION

EXTERNAL MEMORY ADDRESS GENERATOR SECTION

RAM 16BIT×27 DATA & ERROR POINTERS

REGISTER & DATA SELECTORS

ALU

(ACC) ACCUMULATOR

I/O SELECTER

DATA PARALLEL SIRIAL CONVERTER

DECO-DER

SELECTOR

2048×8 (16384) RAM CELL

MUT CONTROL

D403 ISS202-1

Q406 2SC2458 MUTING

IC415 TC74HC86P DATA SWITCHING/MUTING

Q409 2SC2458 DATA SWITCHING

REC MUTE OR COPY MONITOR

D511 ISS202

IC423 TC74HC157P
SWITCHING

IC418 MC74HCU04N

IC417 CX23033
DIGITAL DATA CONVERTER

IC416 CX23065
PHASE COMPARATOR

Q404 2SK241-GR BUFFER

Q405 2SC2995-0 VCO

D405 KV1226

CHARGE POMP

PHASE COMPARATOR

CONTROL LATCH

15 BIT SR

7 BIT PISO

8 BIT LATCH

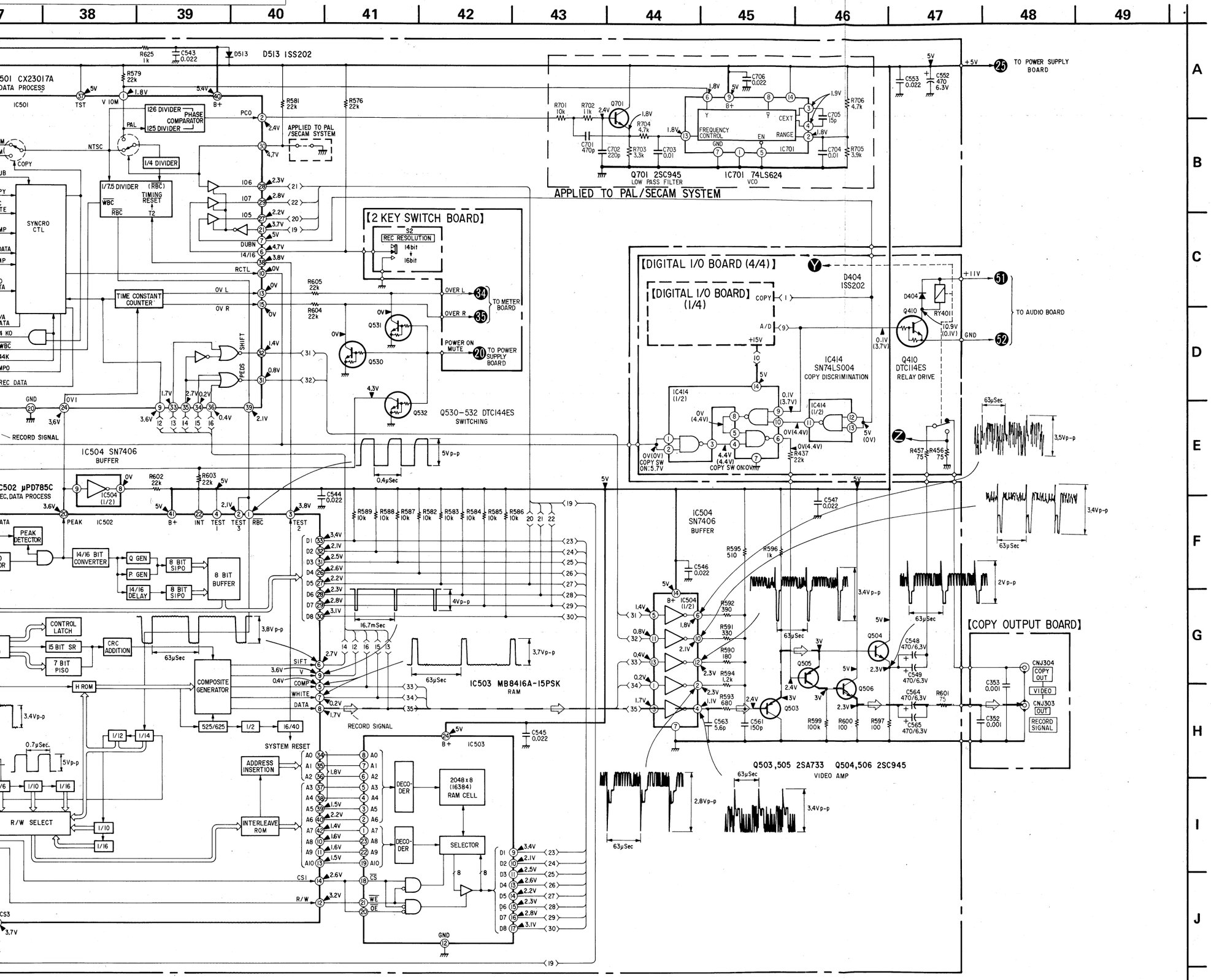
CRC ADDITION

H ROM

COMPOSITE GENERATOR

R/W CONTROL

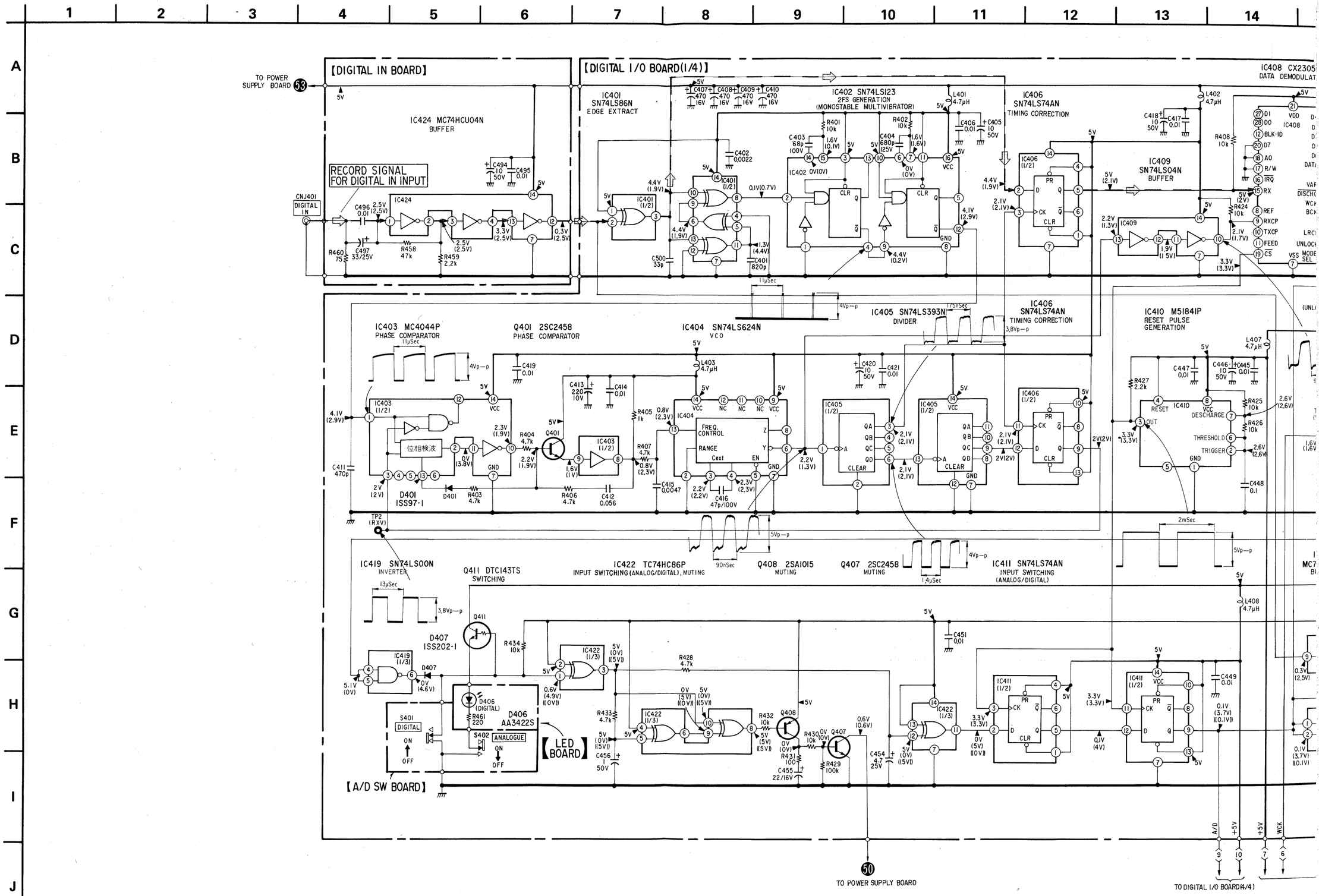
R/W SELECT

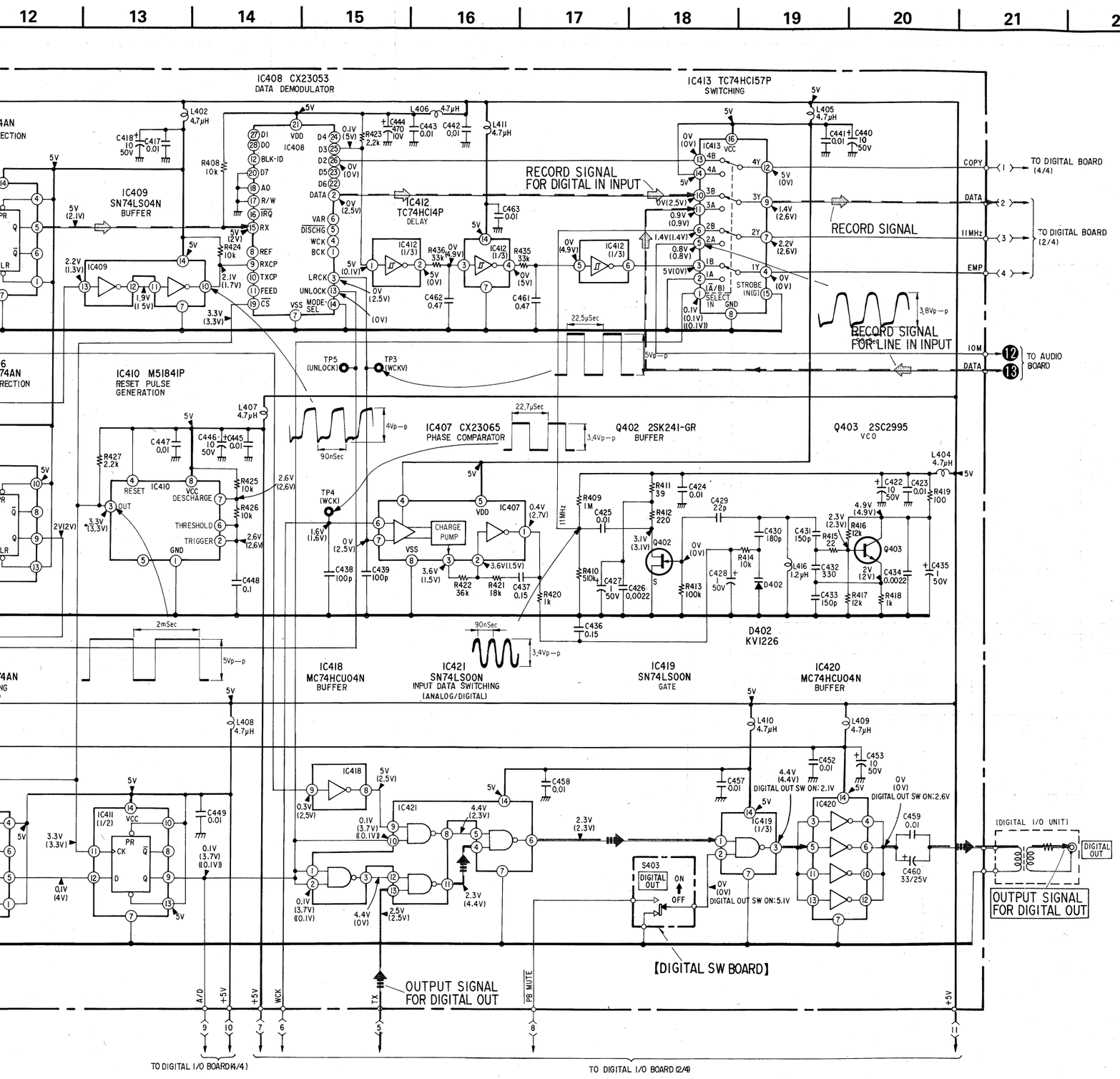


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B− bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground E-E mode unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  INPUT switch . . . . . ANALOG
- Voltage value on the DIGITAL IN board and the DIGITAL I/O board are taken under following conditions with a VOM (50 kΩ/V).
  no mark: INPUT switch . . . . . DIGITAL
  E-E mode, no-signal.
  ( ): INPUT swtich . . . . . DIGITAL
  Input a emphasised PB signal from DIGITAL IN terminal.
  (( )): INPUT switch . . . . . ANALOG
  E-E mode, no-signal.
- Waveforms are taken to ground in E-E mode by using oscilloscope.
- Waveforms on the DIGITAL IN board and the DIGITAL I/O board are taken to ground in the mode input a PB signal from DIGITAL IN terminal.
  INPUT switch . . . . . DIGITAL
- Signal path.
- ⟶ : PB signal.
- ⟶ : REC signal.
- Switch

Ref. No.	Switch	Position
S401	DIGITAL	OFF
S402	ANALOGUE	ON
S403	DIGITAL OUT	OFF


【DIGITAL IN BOARD】
【DIGITAL I/O BOARD(1/4)】
【A/D SW BOARD】
【LED BOARD】
TO POWER SUPPLY BOARD 53
TO POWER SUPPLY BOARD 50
TO DIGITAL I/O BOARD(4/4)
IC424 MC74HCU04N BUFFER
RECORD SIGNAL FOR DIGITAL IN INPUT
IC401 SN74LS86N EDGE EXTRACT
IC402 SN74LSI23 2FS GENERATION (MONOSTABLE MULTIVIBRATOR)
IC406 SN74LS74AN TIMING CORRECTION
IC409 SN74LS04N BUFFER
IC408 CX2305
DATA DEMODULAT
IC403 MC4044P PHASE COMPARATOR
Q401 2SC2458 PHASE COMPARATOR
IC404 SN74LS624N VCO
IC405 SN74LS393N DIVIDER
IC406 SN74LS74AN TIMING CORRECTION
IC410 M51841P RESET PULSE GENERATION
IC419 SN74LS00N INVERTER
Q411 DTC143TS SWITCHING
IC422 TC74HC86P INPUT SWITCHING (ANALOG/DIGITAL), MUTING
Q408 2SA1015 MUTING
Q407 2SC2458 MUTING
IC411 SN74LS74AN INPUT SWITCHING (ANALOG/DIGITAL)
D401 ISS97-1
D407 ISS202-1
D406 AA3422S
S401 DIGITAL
S402 ANALOGUE
ON
OFF
位相檢波
FREQ. CONTROL
RANGE
CLEAR
RESET
VCC
DESCHARGE
OUT
THRESHOLD
TRIGGER
GND
A/D
+5V
WCK



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▬▬ : B+ bus.
- ▬ ▬ : B− bus.
- Voltage value on the DIGITAL IN board and the DIGITAL I/O board are taken under following conditions with a VOM (50 kΩ/V).
  no mark : INPUT switch . . . . . DIGITAL
  E-E mode, no-signal.
  ( ): INPUT swtich . . . . . DIGITAL
  Input a emphasised PB signal from DIGITAL IN terminal.
  (( )): INPUT switch . . . . . ANALOG
  E-E mode, no-signal.
- Waveforms on the DIGITAL IN board and the DIGITAL I/O board are taken to ground in the mode input a PB signal from DIGITAL IN terminal.
  INPUT switch . . . . . DIGITAL
- Signal path.
- ▬▶ : PB signal.
- ▬·▶ : REC signal.
- Switch

Ref. No.	Switch	Position
S401	DIGITAL	OFF
S402	ANALOGUE	ON
S403	DIGITAL OUT	OFF

otherwise noted. pF: μμF
d except for electrolytics

W or less unless otherwise

L IN board and the DIG-
nder following conditions

DIGITAL

DIGITAL
B signal from DIGITAL IN

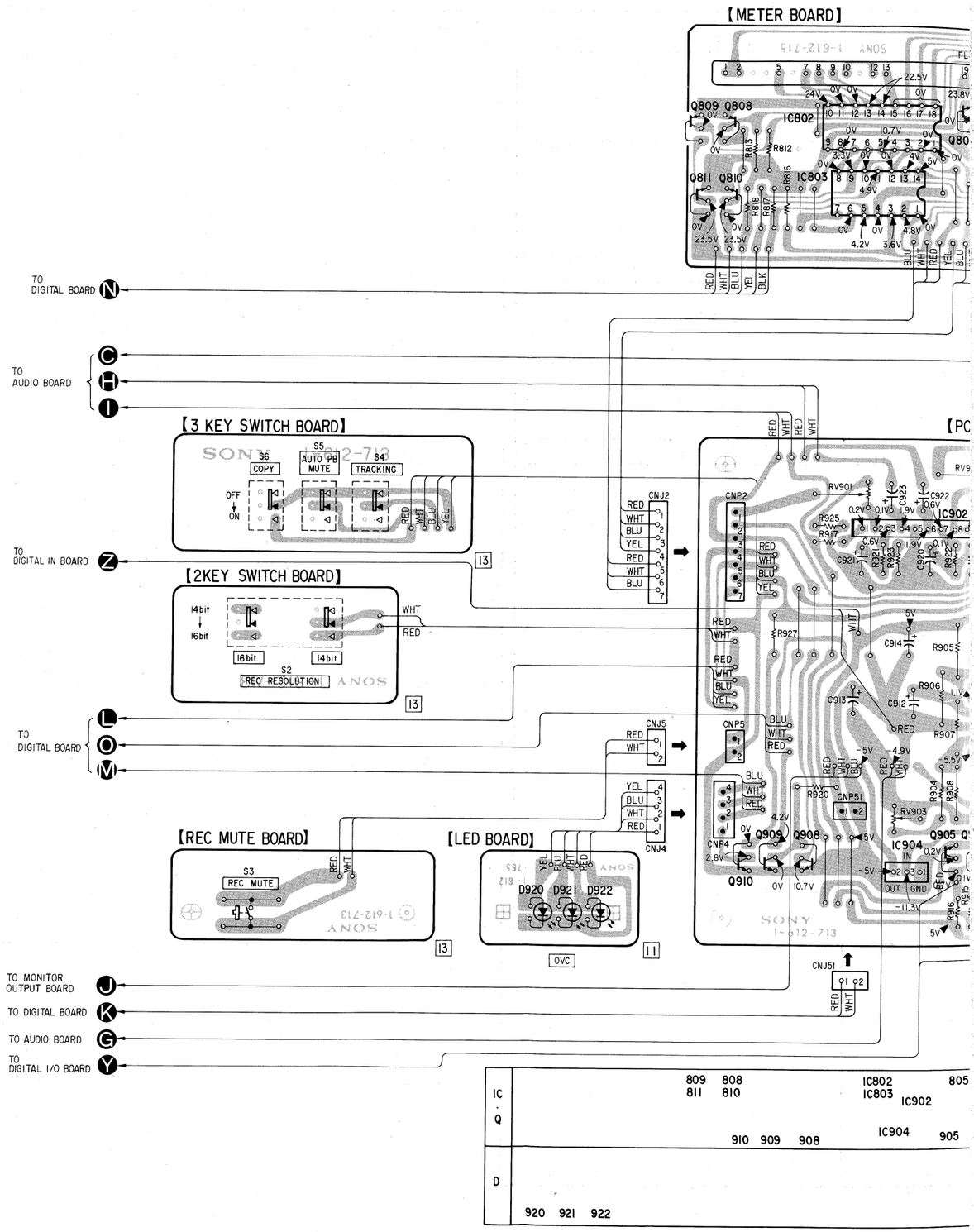
ANALOG

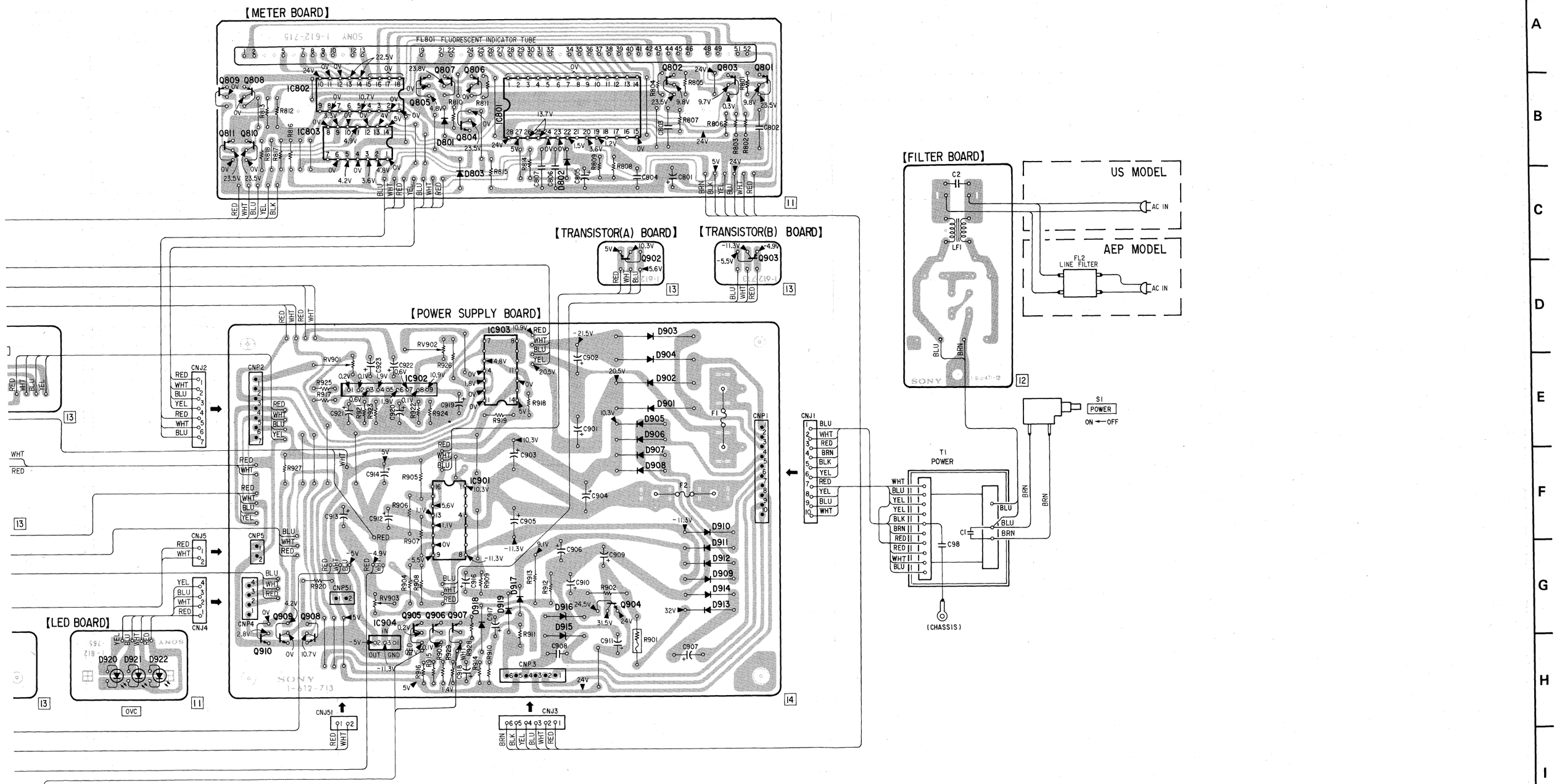
l board and the DIGITAL
l in the mode input a PB
al.

n	Position
	OFF
	ON
T	OFF

4-5. METER AND POWER SUPPLY SECTION MOUNTING DIAGRAM

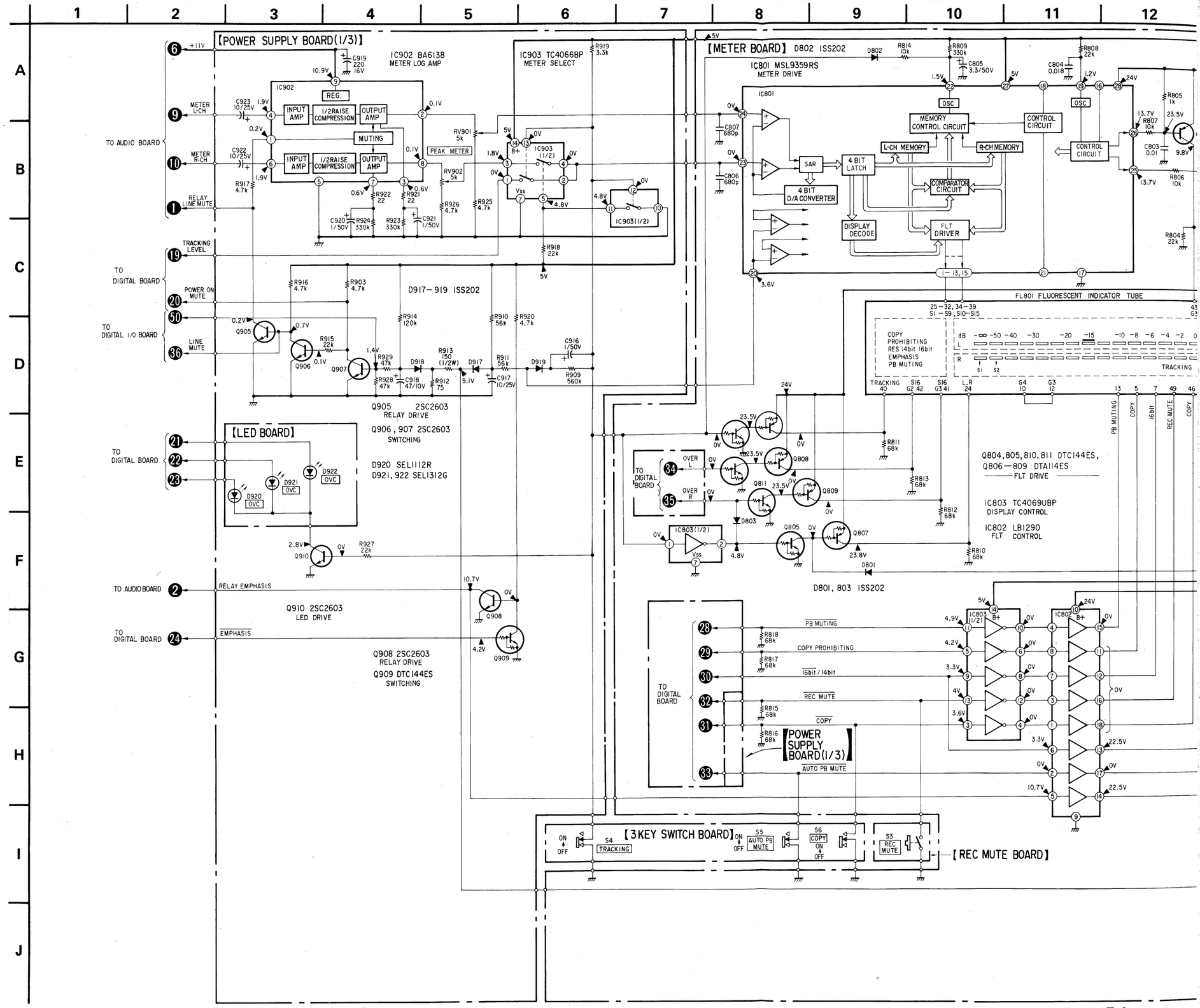
Note:
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.





	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
IC・Q				809 811 808 810	IC802 IC803	IC902	805	807 804 806	IC903	IC801		902	802		803 903	801	IC・Q
						IC901											
				910	909	908	IC904	905	906 907			904					
D								801 803		802			903 904 902 901				D
													905 906 907 908	910 911 912 909 914 913			
	920	921	922					918	919 917	916 915							

4-6. METER AND POWER SUPPLY SECTION SCHEMATIC DIAGRAM



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- : fusible resistor.
- : B+ bus.
- : B− bus.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions in E-E mode with a VOM (50 kΩ/V).

- Switch

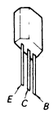
Ref. No.	Switch	Position
S1	POWER	OFF
S2	REC RESOLUTION	14 bit
S3	REC MUTE	OFF
S4	TRACKING	OFF
S5	AUTO PB MUTE	OFF
S6	COPY	OFF

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

• Semiconductor Lead Layouts

2SA733-P
2SA933S-R

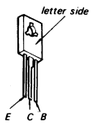
2SA1027R



2SA1138
2SC2676

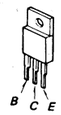
2SA1175
2SC2785

2SB548
2SB731
2SB809K
2SD414
2SD809-K



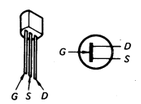
2SC2603F
2SC2724-D
2SC2995-O
DTA114ES
DTC114ES
DTC143TS
DTC144ES

2SD880



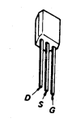
2SK152-3

2SK120



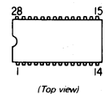
2SK121-2

2SK241-GR



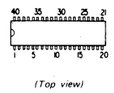
BA6138

CX7914
CX7975
CX20017
CX20018
CX23033
CX23053
MSL9359RS



CX20197
LF353DP
M51841P
NE5532P
TL082CP

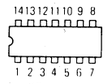
CX23017A



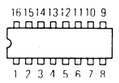
CX23065
M5218L

HM6116ASP-12

74F02PC
MC74HCU04N
MC14584BCP
MC4044P
SN7406N
SN74LS00N
SN74SL02N
SN74LS04N
SN74LS74AN
SN74LS86N
SN74LS393N
SN74LS624N
TC4066BP
TC4069UBP
TC74HC14P
TC74HC86P
μPC319C



CX10035
SN74LS423N
TC74HC157P
μPD4053BC



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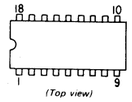

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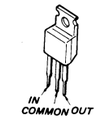

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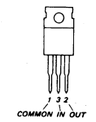

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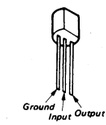
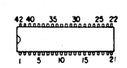
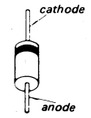


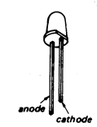
TM4505P
μPD785C



10DF2
10E-2
30DF2
1SS97-1
1SS202-1
HZ6A1
HZ6B2L
HZ7B2L
HZ24-2L



AA3422S



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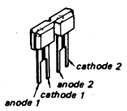
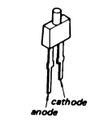


SEL1112R
SEL1312G



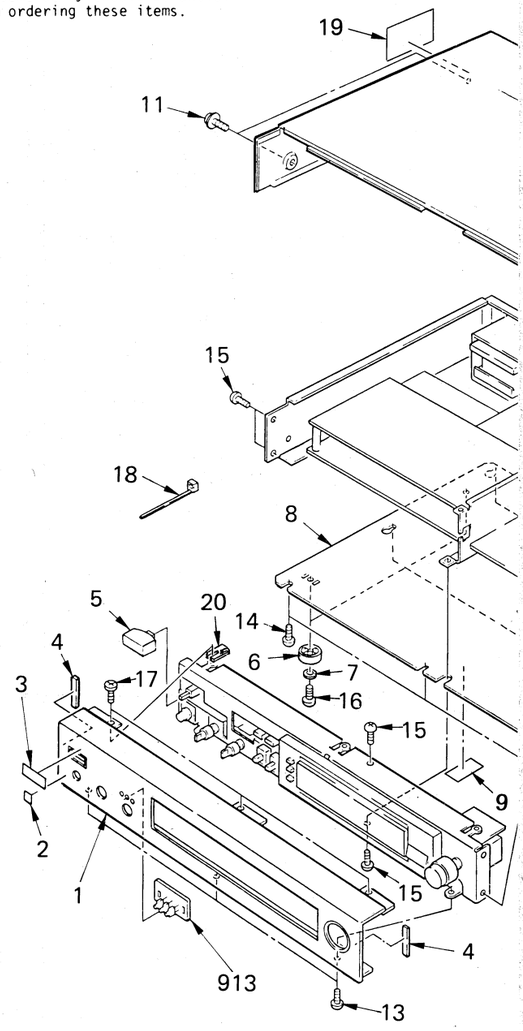
SECTION 5
EXPLODED VIEWS AND

NOTE:
The mechanical parts with no reference number in the exploded views are not supplied.

· Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

· The construction parts of a part are indicated with a c number in the remark column

(1)



No.	Part No.	Description	Remarks
1	X-4906-007-1	(US)....PANEL ASSY, FRONT	
	X-4906-008-1	(AEP)...PANEL ASSY, FRONT	
2	3-703-710-41	STICKER, SONY SYMBOL (12)	
3	3-304-974-01	EMBLEM, SONY	
4	9-911-840-XX	CUSHION	
5	X-4881-408-0	KNOB ASSY, POWER	
6	X-4836-202-9	FOOT	
7	4-836-939-00	WASHER, 3.1	
8	*4-906-015-41	PLATE, BOTTOM	
9	3-703-680-00	LABEL, CAUTION, SUB, NEW UL	
10	3-831-441-11	CUSHION	
11	4-889-321-31	SCREW	

No.	Par
12	4-9
13	3-7
14	7-6
15	7-6
16	7-6
17	7-6
18	3-7
19	*4-9
	*4-9
20	*4-9
913	*1-6

SECTION 5
PLODED VIEWS AND PARTS LIST

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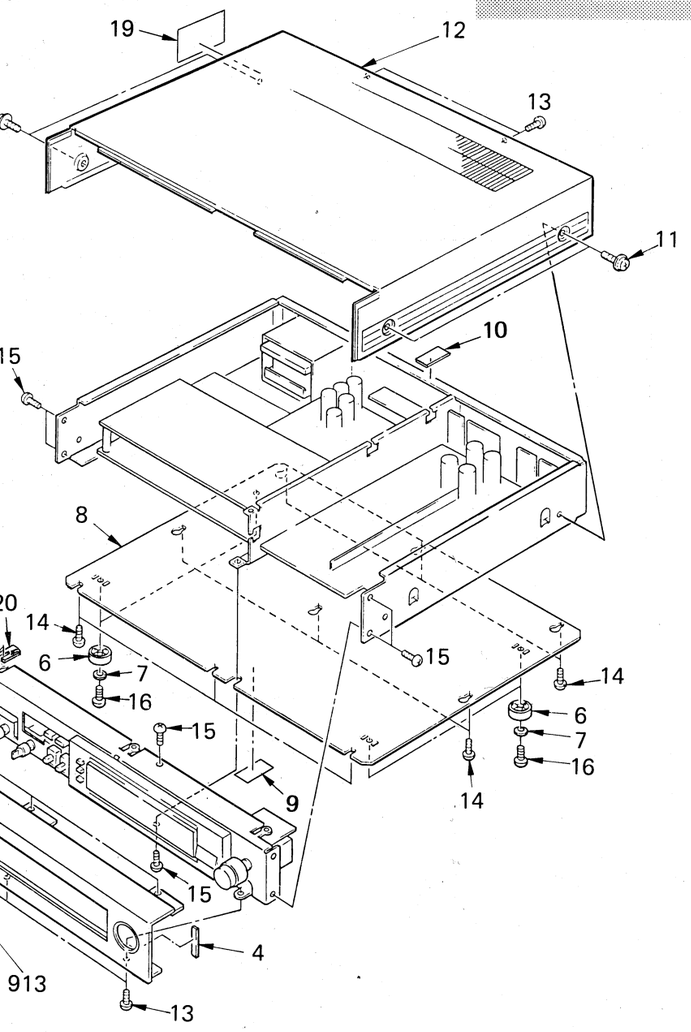
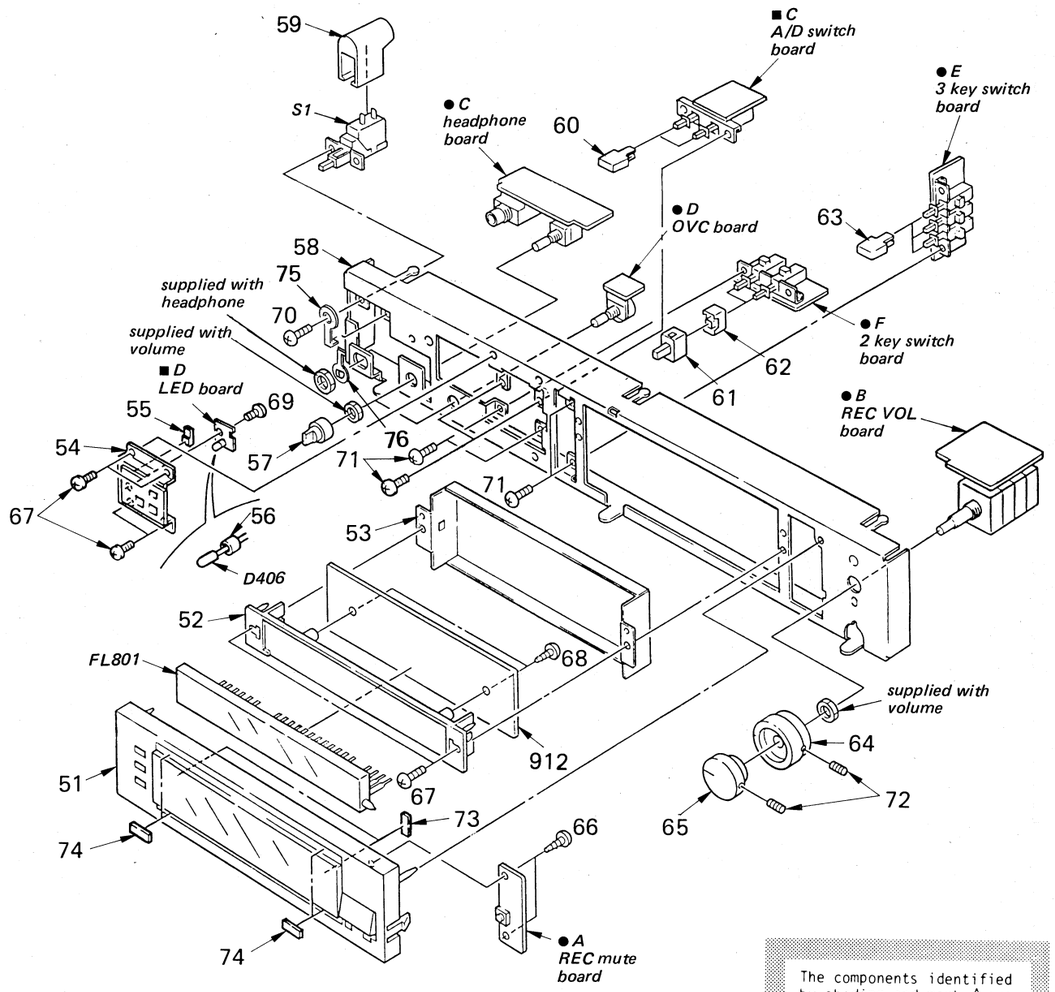
· The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



(2)

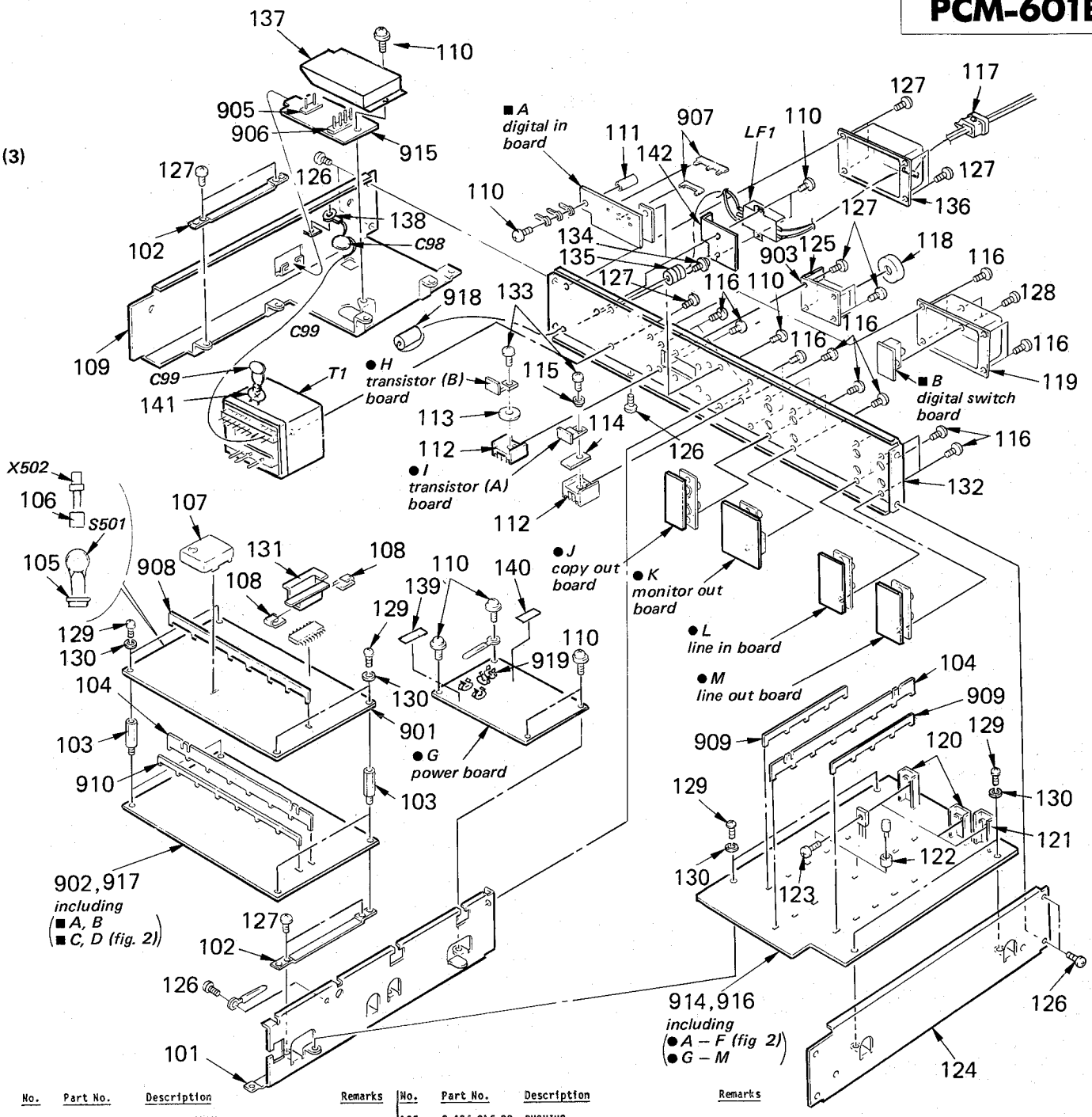


The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Remarks	No.	Part No.	Description	Remarks
Y, FRONT	12	4-906-016-31	CASE	
Y, FRONT	13	3-703-108-21	SCREW +BV 3X6, S TIGHT	
	14	7-685-871-01	SCREW +BVTT 3X6 (S)	
BOL (12)	15	7-685-752-04	SCREW +BVTT 3X8 (S)	
	16	7-685-755-04	SCREW +BVTT 3X14 (S)	
	17	7-682-547-09	SCREW +B 3X6	
	18	3-701-748-00	CLAMP	
	19	*4-906-056-01	(US)....LABEL, MODEL NUMBER (U)	
		*4-906-057-01	(AEP)...LABEL, MODEL NUMBER (AE)	
UB, NEW UL	20	*4-906-058-01	PLATE, GROUND	
	913	*1-612-765-11	PC BOARD, LED	

Remarks	No.	Part No.	Description	Remarks
	51	X-4906-002-3	ESCUTCHEON ASSY	
	52	*3-304-938-00	HOLDER, FL TUBE	
	53	*4-906-006-01	CASE, SHIELD, METER	
	54	4-906-054-01	ESCUTCHEON, DIGITAL	
	55	*4-867-157-00	INDICATOR	
	56	*4-902-124-00	TUBE, LED	
	57	3-304-929-11	KNOB, HEADPHONE	
	58	*4-906-007-01	CHASSIS, AMPLIFIER	
	59	3-575-524-00	COVER, POWER SWITCH	
	60	4-845-120-31	KNOB, PUSH	
	61	4-886-509-00	KNOB, PUSH	
	62	4-864-307-00	RING	
	63	4-845-120-21	KNOB, PUSH	
	64	X-3304-910-0	KNOB (LEFT) ASSY, REC	
	65	X-3304-909-0	KNOB (RIGHT) ASSY, REC	
	66	7-685-646-71	SCREW +BVTP 3X8 TYPE2 N-S	
	67	7-685-871-01	SCREW +BVTT 3X6 (S)	
	68	7-685-545-14	+BTP 3X6	
	69	7-687-204-11	TOTSU PTPWH 2X6 NON-SLIT,TYPE2	
	70	7-628-647-01	+PS 3X6	
	71	7-682-547-09	SCREW +B 3X6	
	72	3-701-506-01	SET SCREW, DOUBLE POINT 3X4	
	73	3-831-441-XX	CUSHION, SPEAKER	
	74	9-911-837-XX	CUSHION (B), FILTER	
	75	3-401-179-00	HOLDER, WIRE	
	76	*4-906-033-01	PLATE, GROUND	
	912	*1-612-715-11	PC BOARD, METER	
	FL801	1-519-320-11	INDICATOR TUBE, FLUORESCENT	
	S1	⚠ 1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)	

(3)



No.	Part No.	Description	Remarks
101	*4-906-012-01	PLATE, RELAY	
102	*4-906-051-01	BRACKET, PC BOARD	
103	*4-906-052-01	SUPPORT(B)	
104	*3-311-617-01	REINFORCEMENT, PCB	
105	*4-906-025-01	RUBBER, SPACER	
106	4-886-543-00	TUBE, CUSHION	
107	*2-362-376-11	CASE (2), SHIELD, VCO	
108	4-886-557-00	CLIP (B), IC	
109	*4-906-008-01	PLATE, SIED, LEFT	
110	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	
111	2-066-111-08	STUD	
112	*4-863-132-00	HEAT SINK (SMALL)	
113	3-572-365-11	SHEET, INSULATING (A)	
114	3-703-037-00	INSULATOR, TO-220	
115	2-371-561-00	BUSHING (P), INSULATING	
116	3-703-108-21	SCREW +BV 3X6, S TIGHT	
117	3-703-244-00	BUSHING (2104), CORD	
118	4-908-991-01	ESCUTCHEON	
119	*4-908-975-11	CASE, DIGITAL OUT	
120	*4-886-555-00	HEAT SINK	
121	*3-312-615-11	HEAT SINK	
122	*4-886-504-00	SPACER	
123	2-259-121-00	SCREW, TR	
124	*4-906-011-01	PLATE, SIDE, RIGHT	
125	*4-906-059-01	PLATE, SHIELD, D/O	
126	7-685-752-04	SCREW +BVTT 3X8 (S)	
127	7-685-871-01	SCREW +BVTT 3X6 (S)	
129	7-685-873-01	SCREW +BVTT 3X10 (S)	
130	4-908-961-01	WASHER	
131	*4-906-029-02	HEAT SINK	
132	*4-906-061-01	PLATE (E), JACK	
133	7-682-548-09	+B 3X8	
134	3-703-249-11	SCREW, S TIGHT, +PTTWH 3X6	

No.	Part No.	Description	Remarks
135	3-434-216-00	BUSHING	
136	*4-906-060-01	CASE, POWER	
137	*4-906-063-01	INSULATOR (B)	
138	7-623-508-01	LUG, 3	
139	3-701-946-30	(US)....LABEL, FUSE 1A 125V	
	*3-701-948-14	(AEP)...LABEL, FUSE T 1A	
140	*3-701-946-32	(US)....LABEL, FUSE 0.5A 125V	
141	4-875-455-01	(AEP)...COVER (DIA.20), CAPACITOR	
142	*4-906-062-01	INSULATOR (A)	
901	*A-4335-492-A	(US)....MOUNTED PCB, DIGITAL	
	*A-4335-586-A	(AEP)...MOUNTED PCB, DIGITAL	
902	*A-4335-493-A	MOUNTED PCB, DIGITAL (I/O)	
903	1-464-454-11	DIGITAL (I/O) UNIT	
904	⚠ 1-555-701-00	(US)....CORD, POWER	
	⚠ 1-555-795-00	(AEP)...CORD, POWER	
905	*1-535-139-00	BASE POST 19MM (10MM PITCH) 2P	
906	*1-535-141-00	BASE POST 19MM (10MM PITCH) 4P	
907	*1-560-242-11	BUS BAR 3P	
908	*1-560-242-41	BUS BAR 11P	
909	*1-560-242-71	BUS BAR 6P	
910	*1-560-242-91	BUS BAR 10P	
914	*A-4335-588-A	MOUNTED PCB, AUDIO	
915	*1-613-471-11	PC BOARD, FILTER	
916	*1-612-713-11	PC BOARD, AUDIO	
918	1-543-140-00	CORE, RING	
919	1-533-131-00	HOLDER, FUSE	
C1	⚠ 1-161-744-00	CAP, CERAMIC 10000PF FZ	
C098	1-102-129-00	CAP, CERAMIC 0.01MF B	
LF1	1-421-878-11	(AEP)...FILTER, LINE	
LF1	1-421-878-11	(AEP)...FILTER, LINE	
T1	⚠ 1-448-589-11	(US)....TRANSFORMER, POWER	
T1	⚠ 1-448-590-11	(AEP)...TRANSFORMER, POWER	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*A-4335-492-A	(US)....MOUNTED PCB, DIGITAL			
	*A-4335-586-A	(AEP)...MOUNTED PCB, DIGITAL			
902	*A-4335-493-A	MOUNTED PCB, DIGITAL (I/O)			
903	1-464-454-11	DIGITAL (I/O) UNIT			
904	⚠ 1-555-701-00	(US)....CORD, POWER			
	⚠ 1-555-795-00	(AEP)...CORD, POWER			
905	*1-535-139-00	BASE POST 19MM (10MM PITCH) 2P			
906	*1-535-141-00	BASE POST 19MM (10MM PITCH) 4P			
907	*1-560-242-11	BUS BAR 3P			
908	*1-560-242-41	BUS BAR 11P			
909	*1-560-242-71	BUS BAR 6P			
910	*1-560-242-91	BUS BAR 10P			
912	*1-612-715-11	PC BOARD, METER			
913	*1-612-765-11	PC BOARD, LED			
914	*A-4335-588-A	MOUNTED PCB, AUDIO			
915	*1-613-471-11	PC BOARD, FILTER			
916	*1-612-713-11	PC BOARD, AUDIO			
918	1-543-140-00	CORE, RING			
919	1-533-131-00	HOLDER, FUSE			
C1	⚠ 1-161-744-00	(LINE FILTER BOARD) ...CAP, CERAMIC 10000PF FZ			
C2	⚠ 1-161-744-00	(LINE FILTER BOARD) CERAMIC 0.01MF 400V			
C01	1-102-074-00	(AUDIO BOARD)...CERAMIC	0.001MF	10%	50V
C02	1-102-074-00	(AUDIO BOARD) CERAMIC	0.001MF	10%	50V
C098	1-102-129-00	CAP, CERAMIC	0.01MF B		
C101	1-107-165-00	MICA	56PF	5%	500V
C102	1-136-305-11	FILM	0.056MF	2%	0
C103	1-107-310-00	MICA	220PF	5%	500V
C104	1-123-370-00	ELECT	10MF	20%	63V
C105	1-123-370-00	ELECT	10MF	20%	63V
C109	1-123-371-00	ELECT	22MF	20%	63V
C110	1-104-255-11	POLYSTYRENE	0.0018MF	5%	125V
C111	1-162-037-00	CERAMIC	100PF	5%	50V
C112	1-162-037-00	CERAMIC	100PF	5%	50V
C113	1-123-370-00	ELECT	10MF	20%	63V
C121	1-162-021-00	CERAMIC	22PF	5%	50V
C122	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C123	1-123-371-00	ELECT	22MF	20%	63V
C124	1-104-267-00	POLYSTYRENE	220PF	5%	500V
C127	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C128	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C129	1-136-277-11	FILM	0.0039MF	2%	630V
C130	1-123-370-00	ELECT	10MF	20%	63V
C131	1-107-310-00	MICA	220PF	5%	500V
C201	1-107-165-00	MICA	56PF	5%	500V
C202	1-136-305-11	FILM	0.056MF	2%	0
C203	1-107-310-00	MICA	220PF	5%	500V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C204	1-123-370-00	ELECT	10MF	20%	63V
C205	1-123-370-00	ELECT	10MF	20%	63V
C209	1-123-371-00	ELECT	22MF	20%	63V
C210	1-104-255-11	POLYSTYRENE	0.0018MF	5%	125V
C211	1-162-037-00	CERAMIC	100PF	5%	50V
C212	1-162-037-00	CERAMIC	100PF	5%	50V
C213	1-123-370-00	ELECT	10MF	20%	63V
C221	1-162-021-00	CERAMIC	22PF	5%	50V
C222	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C223	1-123-371-00	ELECT	22MF	20%	63V
C224	1-104-267-00	POLYSTYRENE	220PF	5%	500V
C227	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C228	1-104-230-00	POLYSTYRENE	0.0015MF	5%	50V
C229	1-136-277-11	FILM	0.0039MF	2%	630V
C230	1-123-370-00	ELECT	10MF	20%	63V
C231	1-107-310-00	MICA	220PF	5%	500V
C300	1-101-880-00	CERAMIC	47PF	10%	50V
C301	1-123-371-00	ELECT	22MF	20%	63V
C302	1-123-371-00	ELECT	22MF	20%	63V
C303	1-123-371-00	ELECT	22MF	20%	63V
C304	1-123-371-00	ELECT	22MF	20%	63V
C305	1-123-371-00	ELECT	22MF	20%	63V
C306	1-123-371-00	ELECT	22MF	20%	63V
C307	1-123-324-00	ELECT	1000MF	20%	16V
C308	1-123-333-00	ELECT	100MF	20%	16V
C309	1-123-390-00	ELECT	330MF	20%	63V
C310	1-123-390-00	ELECT	330MF	20%	63V
C311	1-123-371-00	ELECT	22MF	20%	63V
C312	1-123-371-00	ELECT	22MF	20%	63V
C313	1-124-636-00	ELECT	3300MF	20%	25V
C314	1-124-636-00	ELECT	3300MF	20%	25V
C315	1-162-110-00	CERAMIC	0.001MF	10%	50V
C316	1-131-520-00	TANTALUM	22MF	20%	16V
C317	1-131-371-00	TANTALUM	10MF	20%	16V
C318	1-161-494-00	CERAMIC	0.022MF	30%	25V
C319	1-162-110-00	CERAMIC	0.001MF	10%	50V
C320	1-162-040-00	CERAMIC	4.7PF	10%	50V
C321	1-162-046-00	CERAMIC	12PF	5%	50V
C322	1-123-384-00	ELECT	10MF	20%	50V
C323	1-123-380-00	ELECT	1MF	20%	50V
C324	1-123-371-00	ELECT	22MF	20%	63V
C325	1-162-021-00	CERAMIC	22PF	5%	50V
C326	1-162-110-00	CERAMIC	0.001MF	10%	50V
C327	1-123-306-00	ELECT	47MF	20%	10V
C328	1-123-298-00	ELECT	470MF	20%	6.3V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C329	1-123-298-00	ELECT	470MF	20%	6.3V
C330	1-161-494-00	CERAMIC	0.022MF	30%	25V
C331	1-161-494-00	CERAMIC	0.022MF	30%	25V
C332	1-123-384-00	ELECT	10MF	20%	50V
C333	1-123-384-00	ELECT	10MF	20%	50V
C334	1-162-029-00	CERAMIC	47PF	5%	50V
C335	1-162-050-00	CERAMIC	18PF	5%	50V
C336	1-162-029-00	CERAMIC	47PF	5%	50V
C337	1-162-110-00	CERAMIC	0.001MF	10%	50V
C338	1-131-520-00	TANTALUM	22MF	20%	16V
C339	1-161-494-00	CERAMIC	0.022MF	30%	25V
C340	1-123-384-00	ELECT	10MF	20%	50V
C341	1-123-371-00	ELECT	22MF	20%	63V
C342	1-123-371-00	ELECT	22MF	20%	63V
C343	1-123-371-00	ELECT	22MF	20%	63V
C345	1-123-371-00	ELECT	22MF	20%	63V
C346	1-123-371-00	ELECT	22MF	20%	63V
C347	1-123-371-00	ELECT	22MF	20%	63V
C348	1-123-371-00	ELECT	22MF	20%	63V
C349	1-123-333-00	ELECT	100MF	20%	16V
C350	1-123-333-00	ELECT	100MF	20%	16V
C351	1-161-494-00	CERAMIC	0.022MF	30%	25V
C352	1-162-110-00	CERAMIC	0.001MF	10%	50V
C353	1-162-110-00	CERAMIC	0.001MF	10%	50V
C354	1-162-037-00	CERAMIC	100PF	5%	50V
C355	1-162-102-00	CERAMIC	220PF	10%	50V
C356	1-123-321-00	ELECT	220MF	20%	16V
C357	1-123-321-00	ELECT	220MF	20%	16V
C358	1-107-311-00	MICA	15PF	5%	500V
C359	1-107-311-00	MICA	15PF	5%	500V
C360	1-123-306-00	ELECT	47MF	20%	10V
C361	1-123-306-00	ELECT	47MF	20%	10V
C399	1-162-306-31	CERAMIC	0.01MF	30%	16V
C401	1-162-293-31	CERAMIC	820PF	10%	50V
C402	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C403	1-107-296-00	MICA	68PF	5%	100V
C404	1-104-150-00	POLYSTYRENE	680PF	5%	125V
C405	1-123-356-00	ELECT	10MF	20%	50V
C406	1-162-306-31	CERAMIC	0.01MF	30%	16V
C407	1-123-323-00	ELECT	470MF	20%	16V
C408	1-123-323-00	ELECT	470MF	20%	16V
C409	1-123-323-00	ELECT	470MF	20%	16V
C410	1-123-323-00	ELECT	470MF	20%	16V
C411	1-102-824-00	CERAMIC	470PF	5%	50V
C412	1-136-162-00	FILM	0.056MF	5%	50V
C413	1-123-672-11	ELECT	220MF	20%	10V
C414	1-162-306-31	CERAMIC	0.01MF	30%	16V
C415	1-162-304-31	CERAMIC	0.0047MF	30%	16V
C416	1-107-292-00	MICA	47PF	5%	100V
C417	1-162-306-31	CERAMIC	0.01MF	30%	16V
C418	1-123-356-00	ELECT	10MF	20%	50V
C419	1-162-306-31	CERAMIC	0.01MF	30%	16V
C420	1-123-356-00	ELECT	10MF	20%	50V
C421	1-162-306-31	CERAMIC	0.01MF	30%	16V
C422	1-123-356-00	ELECT	10MF	20%	50V
C423	1-162-306-31	CERAMIC	0.01MF	30%	16V
C424	1-162-306-31	CERAMIC	0.01MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C425	1-162-294-31	CERAMIC	0.001MF	10%	50V
C426	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C427	1-131-450-00	TANTALUM	1MF	20%	50V
C428	1-131-450-00	TANTALUM	1MF	20%	50V
C429	1-102-959-00	CERAMIC	22PF	10%	50V
C430	1-102-976-00	CERAMIC	180PF	5%	50V
C431	1-102-531-00	CERAMIC	150PF	5%	50V
C432	1-102-820-00	CERAMIC	330PF	5%	50V
C433	1-102-531-00	CERAMIC	150PF	5%	50V
C434	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C435	1-131-450-00	TANTALUM	1MF	20%	50V
C436	1-136-167-00	FILM	0.15MF	5%	50V
C437	1-136-167-00	FILM	0.15MF	5%	50V
C438	1-162-282-31	CERAMIC	100PF	10%	50V
C439	1-162-282-31	CERAMIC	100PF	10%	50V
C440	1-123-356-00	ELECT	10MF	20%	50V
C441	1-162-306-31	CERAMIC	0.01MF	30%	16V
C442	1-162-306-31	CERAMIC	0.01MF	30%	16V
C443	1-162-306-31	CERAMIC	0.01MF	30%	16V
C444	1-123-310-00	ELECT	470MF	20%	10V
C445	1-162-306-31	CERAMIC	0.01MF	30%	16V
C446	1-123-356-00	ELECT	10MF	20%	50V
C447	1-162-306-31	CERAMIC	0.01MF	30%	16V
C448	1-136-165-00	FILM	0.1MF	5%	50V
C449	1-162-306-31	CERAMIC	0.01MF	30%	16V
C450	1-162-306-31	CERAMIC	0.01MF	30%	16V
C451	1-162-306-31	CERAMIC	0.01MF	30%	16V
C452	1-162-306-31	CERAMIC	0.01MF	30%	16V
C453	1-123-356-00	ELECT	10MF	20%	50V
C454	1-123-369-00	ELECT	4.7MF	20%	25V
C455	1-123-330-00	ELECT	22MF	20%	16V
C456	1-123-380-00	ELECT	1MF	20%	50V
C457	1-162-306-31	CERAMIC	0.01MF	30%	16V
C458	1-162-306-31	CERAMIC	0.01MF	30%	16V
C459	1-162-306-31	CERAMIC	0.01MF	30%	16V
C460	1-123-343-00	ELECT	33MF	20%	25V
C461	1-136-173-00	FILM	0.47MF	5%	50V
C462	1-136-173-00	FILM	0.47MF	5%	50V
C463	1-162-306-31	CERAMIC	0.01MF	30%	16V
C464	1-162-306-31	CERAMIC	0.01MF	30%	16V
C465	1-123-369-00	ELECT	4.7MF	20%	25V
C466	1-123-369-00	ELECT	4.7MF	20%	25V
C467	1-123-380-00	ELECT	1MF	20%	50V
C468	1-123-356-00	ELECT	10MF	20%	50V
C469	1-162-306-31	CERAMIC	0.01MF	30%	16V
C470	1-162-294-31	CERAMIC	0.001MF	10%	50V
C471	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C472	1-131-450-00	TANTALUM	1MF	20%	50V
C473	1-102-959-00	CERAMIC	22PF	10%	50V
C474	1-101-059-00	CERAMIC	510PF	5%	50V
C475	1-102-531-00	CERAMIC	150PF	5%	50V
C476	1-102-820-00	CERAMIC	330PF	5%	50V
C477	1-102-531-00	CERAMIC	150PF	5%	50V
C478	1-131-450-00	TANTALUM	1MF	20%	50V
C479	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C480	1-131-450-00	TANTALUM	1MF	20%	50V
C481	1-136-167-00	FILM	0.15MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C482	1-123-343-00	ELECT	33MF	20%	25V
C483	1-162-215-31	CERAMIC	47PF	5%	50V
C484	1-162-215-31	CERAMIC	47PF	5%	50V
C485	1-123-356-00	ELECT	10MF	20%	50V
C486	1-162-306-31	CERAMIC	0.01MF	30%	16V
C487	1-162-306-31	CERAMIC	0.01MF	30%	16V
C488	1-162-306-31	CERAMIC	0.01MF	30%	16V
C489	1-131-520-00	TANTALUM	22MF	20%	16V
C490	1-123-323-00	ELECT	470MF	20%	16V
C491	1-123-323-00	ELECT	470MF	20%	16V
C492	1-123-323-00	ELECT	470MF	20%	16V
C493	1-123-323-00	ELECT	470MF	20%	16V
C494	1-123-356-00	ELECT	10MF	20%	50V
C495	1-162-306-31	CERAMIC	0.01MF	30%	16V
C496	1-162-306-31	CERAMIC	0.01MF	30%	16V
C497	1-123-343-00	ELECT	33MF	20%	25V
C498	1-124-902-00	ELECT	0.47MF	20%	50V
C499	1-162-215-31	CERAMIC	47PF	5%	50V
C500	1-162-211-31	CERAMIC	33PF	5%	50V
C502	1-123-330-00	ELECT	22MF	20%	25V
C503	1-123-307-00	ELECT	100MF	20%	6.3V
C504	1-123-228-00	ELECT	1MF	20%	50V
C505	1-123-380-00	ELECT	1MF	20%	50V
C506	1-123-380-00	ELECT	1MF	20%	50V
C507	1-123-228-00	ELECT	1MF	20%	50V
C508	1-123-380-00	ELECT	1MF	20%	50V
C509	1-123-447-00	ELECT	0.22MF	20%	50V
C510	1-123-307-00	ELECT	100MF	20%	6.3V
C511	1-123-228-00	ELECT	1MF	20%	50V
C512	1-123-380-00	ELECT	1MF	20%	50V
C513	1-162-284-31	CERAMIC	150PF	10%	50V
C514	1-162-306-31	CERAMIC	0.01MF	20%	16V
C515	1-162-284-31	CERAMIC	150PF	10%	50V
C516	1-123-369-00	ELECT	4.7MF	20%	50V
C517	1-123-369-00	ELECT	4.7MF	20%	50V
C518	1-161-494-00	CERAMIC	0.022MF	30%	25V
C519	1-161-494-00	CERAMIC	0.022MF	30%	25V
C520	1-161-494-00	CERAMIC	0.022MF	30%	25V
C521	1-161-494-00	CERAMIC	0.022MF	30%	25V
C522	1-123-380-00	ELECT	1MF	20%	50V
C523	1-123-356-00	ELECT	10MF	20%	50V
C524	1-123-380-00	ELECT	1MF	20%	50V
C525	1-123-381-00	ELECT	2.2MF	20%	50V
C526	1-123-369-00	ELECT	4.7MF	20%	50V
C527	1-123-356-00	ELECT	10MF	20%	50V
C529	1-162-282-31	CERAMIC	100PF	10%	50V
C530	1-162-203-31	CERAMIC	15PF	5%	50V
C531	1-162-306-31	CERAMIC	0.01MF	20%	16V
C532	1-162-282-31	CERAMIC	100PF	10%	50V
C533	1-161-494-00	CERAMIC	0.022MF	30%	25V
C534	1-161-494-00	CERAMIC	0.022MF	30%	25V
C535	1-161-494-00	CERAMIC	0.022MF	30%	25V
C536	1-161-494-00	CERAMIC	0.022MF	30%	25V
C537	1-161-494-00	CERAMIC	0.022MF	30%	25V
C538	1-162-282-31	CERAMIC	100PF	10%	50V
C539	1-161-494-00	CERAMIC	0.022MF	30%	25V
C540	1-161-494-00	CERAMIC	0.022MF	30%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C541	1-161-494-00	CERAMIC	0.022MF	30%	25V
C542	1-161-494-00	CERAMIC	0.022MF	30%	25V
C543	1-161-494-00	CERAMIC	0.022MF	30%	25V
C544	1-161-494-00	CERAMIC	0.022MF	30%	25V
C545	1-161-494-00	CERAMIC	0.022MF	30%	25V
C546	1-161-494-00	CERAMIC	0.022MF	30%	25V
C547	1-161-494-00	CERAMIC	0.022MF	30%	25V
C548	1-123-298-00	ELECT	470MF	20%	6.3V
C549	1-123-298-00	ELECT	470MF	20%	6.3V
C550	1-161-494-00	CERAMIC	0.022MF	30%	25V
C552	1-123-298-00	ELECT	470MF	20%	6.3V
C553	1-161-494-00	CERAMIC	0.022MF	30%	25V
C554	1-123-321-00	ELECT	220MF	20%	16V
C555	1-161-494-00	CERAMIC	0.022MF	30%	25V
C556	1-123-321-00	ELECT	220MF	20%	16V
C557	1-161-494-00	CERAMIC	0.022MF	30%	25V
C558	1-161-494-00	CERAMIC	0.022MF	30%	25V
C559	1-162-199-31	CERAMIC	10PF	5%	50V
C560	1-162-199-31	CERAMIC	10PF	5%	50V
C561	1-162-284-31	CERAMIC	150PF	10%	50V
C562	1-162-207-31	CERAMIC	22PF	5%	50V
C563	1-162-196-31	CERAMIC	5.6PF	10%	50V
C564	1-123-298-00	ELECT	470MF	20%	6.3V
C565	1-123-298-00	ELECT	470MF	20%	6.3V
C566	1-162-207-31	CERAMIC	22PF	5%	50V
C567	1-123-356-00	ELECT	10MF	20%	50V
C568	1-162-306-31	CERAMIC	0.01MF	20%	16V
C569	1-162-287-31	CERAMIC	270PF	10%	50V
C570	1-162-198-31	CERAMIC	8.2PF	10%	50V
C571	1-161-494-00	CERAMIC	0.022MF	30%	25V
C572	1-161-494-00	CERAMIC	0.022MF	30%	25V
C573	1-162-304-31	CERAMIC	0.0047MF	20%	16V
C574	1-162-191-31	CERAMIC	2.2PF	10%	50V
C575	1-162-203-31	CERAMIC	15PF	5%	50V
C576	1-162-203-31	CERAMIC	15PF	5%	50V
C577	1-162-203-31	CERAMIC	15PF	5%	50V
C578	1-162-203-31	CERAMIC	15PF	5%	50V
C801	1-123-356-00	ELECT	10MF	20%	50V
C802	1-161-330-00	CERAMIC	0.01MF	30%	25V
C803	1-161-330-00	CERAMIC	0.01MF	30%	25V
C804	1-136-156-00	FILM	0.018MF	5%	50V
C805	1-123-382-00	ELECT	3.3MF	20%	50V
C806	1-162-108-00	CERAMIC	680PF	10%	50V
C807	1-162-108-00	CERAMIC	680PF	10%	50V
C901	1-123-338-00	ELECT	2200MF	20%	25V
C902	1-123-338-00	ELECT	2200MF	20%	25V
C903	1-123-327-00	ELECT	4700MF	20%	16V
C904	1-123-327-00	ELECT	4700MF	20%	16V
C905	1-123-325-00	ELECT	2200MF	20%	16V
C906	1-123-332-00	ELECT	47MF	20%	16V
C907	1-123-337-00	ELECT	1000MF	20%	25V
C908	1-136-165-00	FILM	0.1MF	5%	50V
C909	1-123-361-00	ELECT	220MF	20%	50V
C910	1-123-356-00	ELECT	10MF	20%	50V
C911	1-123-332-00	ELECT	47MF	20%	25V
C912	1-123-333-00	ELECT	100MF	20%	25V
C913	1-123-311-00	ELECT	1000MF	20%	10V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C914	1-123-311-00	ELECT	1000MF	20%	10V
C916	1-123-380-00	ELECT	1MF	20%	50V
C917	1-123-356-00	ELECT	10MF	20%	25V
C918	1-123-306-00	ELECT	47MF	20%	10V
C919	1-123-321-00	ELECT	220MF	20%	16V
C920	1-123-380-00	ELECT	1MF	20%	50V
C921	1-123-380-00	ELECT	1MF	20%	50V
C922	1-123-356-00	ELECT	10MF	20%	25V
C923	1-123-356-00	ELECT	10MF	20%	25V
CNJ101	1-507-898-11	JACK, PIN 2P (LINE IN)			
CNJ102	1-507-898-11	JACK, PIN 2P (LINE OUT)			
CNJ201	1-507-898-11	JACK, PIN 2P (LINE IN)			
CNJ202	1-507-898-11	JACK, PIN 2P (LINE OUT)			
CNJ301	1-507-898-21	JACK, PIN 2P (VIDEO IN)			
CNJ302	1-507-898-21	JACK, PIN 2P (VIDEO IN)			
CNJ303	1-507-898-21	JACK, PIN 2P (VIDEO OUT)			
CNJ304	1-507-898-21	JACK, PIN 2P (VIDEO OUT)			
CNJ401	*1-563-079-11	JACK, PIN 1P			
CNJ501	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP1	*1-560-066-00	(POWER BOARD).....PIN, CONNECTOR 10P			
CNP1	*1-564-506-11	(DIGITAL I/O BOARD)..PLUG, CONNECTOR 3P			
CNP2	*1-560-338-00	(POWER BOARD).....PIN, CONNECTOR 7P			
CNP2	*1-564-506-11	(DIGITAL I/O BOARD)..PLUG, CONNECTOR 3P			
CNP3	*1-560-064-00	(POWER BOARD).....PIN, CONNECTOR 6P			
CNP3	*1-564-505-11	(DIGITAL I/O BOARD)..PLUG, CONNECTOR 2P			
CNP4	*1-560-062-00	(POWER BOARD).....PIN, CONNECTOR 4P			
CNP4	*1-564-507-11	(DIGITAL I/O BOARD)..PLUG, CONNECTOR 4P			
CNP5	*1-560-060-00	(POWER BOARD).....PIN, CONNECTOR 2P			
CNP5	*1-564-506-11	(DIGITAL I/O BOARD)..PLUG, CONNECTOR 3P			
CNP6	*1-564-507-21	PLUG, CONNECTOR 4P			
CNP7	*1-564-509-11	PLUG, CONNECTOR 6P			
CNP8	*1-564-505-21	PLUG, CONNECTOR 2P			
CNP9	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP10	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP11	*1-564-505-31	PLUG, CONNECTOR 2P			
CNP12	*1-564-505-41	PLUG, CONNECTOR 2P			
CNP13	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP14	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP15	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP16	*1-564-505-31	PLUG, CONNECTOR 2P			
CNP17	1-564-517-11	PLUG, CONNECTOR 2P			
CNP23	*1-564-505-41	PLUG, CONNECTOR 2P			
CNP51	*1-560-060-00	PIN, CONNECTOR 2P			
CNP52	*1-560-060-00	PIN, CONNECTOR 2P			
CNP53	*1-560-060-00	PIN, CONNECTOR 2P			
CNP54	*1-560-061-00	PIN, CONNECTOR 3P			
CNP55	*1-560-062-00	PIN, CONNECTOR 4P			
CNP56	*1-560-060-00	PIN, CONNECTOR 2P			
CNP57	1-564-517-11	PLUG, CONNECTOR 2P			
CNP501	*1-560-060-00	PIN, CONNECTOR 2P			
CNP502	*1-560-062-00	PIN, CONNECTOR 4P			
CNP503	*1-560-061-00	PIN, CONNECTOR 3P			
CNP504	*1-560-062-00	PIN, CONNECTOR 4P			
CNP505	*1-560-061-00	PIN, CONNECTOR 3P			
CNP506	*1-560-063-00	PIN, CONNECTOR 5P			
CNP507	*1-560-061-00	PIN, CONNECTOR 3P			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D101	8-719-910-65	DIODE HZ6B2L
D102	8-719-107-94	DIODE 1SS202-1
D103	8-719-910-65	DIODE HZ6B2L
D201	8-719-910-65	DIODE HZ6B2L
D202	8-719-107-94	DIODE 1SS202-1
D203	8-719-910-65	DIODE HZ6B2L
D301	8-719-107-94	DIODE 1SS202-1
D302	8-719-107-94	DIODE 1SS202-1
D303	8-719-107-94	DIODE 1SS202-1
D304	8-719-910-65	DIODE HZ6B2L
D305	8-719-910-65	DIODE HZ6B2L
D306	8-719-910-65	DIODE HZ6B2L
D307	8-719-910-65	DIODE HZ6B2L
D401	8-719-101-97	DIODE 1SS97-1
D402	8-719-912-27	DIODE KV1226-D
D403	8-719-107-94	DIODE 1SS202-1
D404	8-719-107-94	DIODE 1SS202-1
D405	8-719-912-27	DIODE KV1226-D
D406	8-719-918-96	DIODE AA3422S
D407	8-719-107-94	DIODE 1SS202-1
D501	8-719-107-94	DIODE 1SS202-1
D502	8-719-107-94	DIODE 1SS202-1
D503	8-719-107-94	DIODE 1SS202-1
D504	8-719-107-94	DIODE 1SS202-1
D505	8-719-107-94	DIODE 1SS202-1
D506	8-719-992-61	DIODE HZ6A1
D507	8-719-915-43	DIODE FC54M
D510	8-719-107-94	DIODE 1SS202-1
D511	8-719-107-94	DIODE 1SS202-1
D512	8-719-107-94	DIODE 1SS202-1
D513	8-719-107-94	DIODE 1SS202-1
D514	8-719-107-94	DIODE 1SS202-1
D801	8-719-107-94	DIODE 1SS202-1
D802	8-719-107-94	DIODE 1SS202-1
D803	8-719-107-94	DIODE 1SS202-1
D901	8-719-230-02	DIODE 30DF2
D902	8-719-230-02	DIODE 30DF2
D903	8-719-230-02	DIODE 30DF2
D904	8-719-230-02	DIODE 30DF2
D905	8-719-210-12	DIODE 10DF2
D906	8-719-210-12	DIODE 10DF2
D907	8-719-210-12	DIODE 10DF2
D908	8-719-210-12	DIODE 10DF2
D909	8-719-210-12	DIODE 10DF2
D910	8-719-210-12	DIODE 10DF2
D911	8-719-200-02	DIODE 10E-2
D912	8-719-200-02	DIODE 10E-2
D913	8-719-200-02	DIODE 10E-2
D914	8-719-200-02	DIODE 10E-2
D915	8-719-910-75	DIODE HZ7B2L
D916	8-719-910-42	DIODE HZ24-2L
D917	8-719-107-94	DIODE 1SS202-1
D918	8-719-107-94	DIODE 1SS202-1
D919	8-719-107-94	DIODE 1SS202-1
D920	8-719-311-12	DIODE SEL1112R
D921	8-719-313-12	DIODE SEL1312G
D922	8-719-313-12	DIODE SEL1312G

ELECTRICAL PARTS

Ref.No.	Part No.	Description
F1	⚠1-532-279-11	(AEP)...FUSE, TIME-LAG T 0.5A
F1	⚠1-532-737-11	(US)....FUSE, GLASS TUBE 0.5A 125V
F2	⚠1-532-078-11	(AEP)...FUSE, TIME-LAG T 1A
F2	⚠1-532-740-11	(US)....FUSE, GLASS TUBE 1A 125V
FL801	1-519-320-11	INDICATOR TUBE, FLUORESCENT
IC101	8-759-602-33	IC CX20197
IC102	8-759-910-75	IC LF353DP
IC103	8-759-900-72	IC NE5532P
IC104	8-759-910-75	IC LF353DP
IC201	8-759-602-33	IC CX20197
IC202	8-759-910-75	IC LF353DP
IC203	8-759-900-72	IC NE5532P
IC204	8-759-910-75	IC LF353DP
IC301	8-759-910-75	IC LF353DP
IC302	8-752-001-80	IC CX20018
IC303	8-752-001-70	IC CX20017
IC304	8-759-140-53	IC UPD4053BC
IC305	8-759-600-02	IC M5218L
IC306	8-759-700-11	IC NJM78M05A
IC307	8-759-700-20	IC NJM79M05A
IC308	8-759-600-02	IC M5218L
IC309	8-759-900-02	IC SN74LS02N
IC310	8-759-045-84	IC MC1458BCP
IC401	8-759-900-86	IC SN74LS86N
IC402	8-759-902-74	IC SN74LS423N
IC403	8-759-040-44	IC MC4044P
IC404	8-759-906-24	IC SN74LS624N
IC405	8-759-903-93	IC SN74LS393N
IC406	8-759-900-74	IC SN74LS74AN
IC407	8-759-918-71	IC CX23065
IC408	8-759-915-26	IC CX23053
IC409	8-759-900-04	IC SN74LS04N
IC410	8-759-618-41	IC M51841P
IC411	8-759-900-74	IC SN74LS74AN
IC412	8-759-202-17	IC TC74HC14P
IC413	8-759-202-27	IC TC74HC157P
IC414	8-759-900-00	IC SN74LS00N
IC415	8-759-202-24	IC TC74HC86P
IC416	8-759-918-71	IC CX23065
IC417	8-759-915-25	IC CX23033
IC418	8-759-001-05	IC MC74HCU04N
IC419	8-759-900-00	IC SN74LS00N
IC420	8-759-001-05	IC MC74HCU04N
IC421	8-759-900-00	IC SN74LS00N
IC422	8-759-202-24	IC TC74HC86P
IC423	8-759-202-27	IC TC74HC157P
IC424	8-759-001-05	IC MC74HCU04N
IC501	8-759-103-57	IC CX23017A
IC502	8-759-178-50	IC UPD785C
IC503	8-759-302-66	IC HM6116ASP-12
IC504	8-759-974-06	IC SN7406N
IC505	8-759-103-19	IC UPC319C
IC506	8-759-979-14	IC CX-7914
IC507	8-759-102-73	IC CX-7975
IC508	8-759-245-05	IC TM4505P
IC509	8-759-302-66	IC HM6116ASP-12

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC510	8-759-990-82	IC TL082CP
IC511	8-759-915-41	IC 74F02PC
IC512	8-759-900-74	IC SN74LS74AN
IC701	8-759-906-24	IC SN74LS624N
IC801	8-759-904-72	IC MSL9359RS
IC802	8-759-812-90	IC LB1290
IC803	8-759-240-69	IC TC4069UBP
IC901	8-759-700-47	IC CX10035
IC902	8-759-961-38	IC BA6138
IC903	8-759-240-66	IC TC4066BP
IC904	8-759-700-65	IC NJM79L05A
J301	1-507-659-00	JACK
L301	1-408-902-21	MICRO INDUCTOR 0.47UH
L302	1-408-551-00	MICRO INDUCTOR 1UH
L401	1-408-559-00	MICRO INDUCTOR 4.7UH
L402	1-408-559-00	MICRO INDUCTOR 4.7UH
L403	1-408-559-00	MICRO INDUCTOR 4.7UH
L404	1-408-559-00	MICRO INDUCTOR 4.7UH
L405	1-408-559-00	MICRO INDUCTOR 4.7UH
L406	1-408-559-00	MICRO INDUCTOR 4.7UH
L407	1-408-559-00	MICRO INDUCTOR 4.7UH
L408	1-408-559-00	MICRO INDUCTOR 4.7UH
L409	1-408-559-00	MICRO INDUCTOR 4.7UH
L410	1-408-559-00	MICRO INDUCTOR 4.7UH
L411	1-408-559-00	MICRO INDUCTOR 4.7UH
L412	1-408-559-00	MICRO INDUCTOR 4.7UH
L413	1-408-559-00	MICRO INDUCTOR 4.7UH
L414	1-408-559-00	MICRO INDUCTOR 4.7UH
L415	1-408-559-00	MICRO INDUCTOR 4.7UH
L416	1-408-552-00	MICRO INDUCTOR 1.2UH
L417	1-408-556-00	MICRO INDUCTOR 2.7UH
L501	1-459-379-00	COIL (WITH CORE)
L502	1-410-015-11	MICRO INDUCTOR 3.3UH
L503	1-407-163-XX	MICRO INDUCTOR 33UH
L504	1-410-033-11	MICRO INDUCTOR 100UH
L505	1-410-033-11	MICRO INDUCTOR 100UH
L506	1-410-033-11	MICRO INDUCTOR 100UH
LDF101	1-464-343-11	FILTER UNIT, LOW PASS
LDF102	1-464-299-00	FILTER UNIT, LOW PASS
LDF201	1-464-343-11	FILTER UNIT, LOW PASS
LDF202	1-464-299-00	FILTER UNIT, LOW PASS
LF1	1-421-580-00	(US)....TRANSFORMER, LINE FILTER (LFT)
LF1	1-421-878-11	(AEP)...FILTER, LINE
PS1	1-532-605-00	LINK, IC
Q101	8-729-800-43	TRANSISTOR 2SK152-3
Q102	8-729-800-43	TRANSISTOR 2SK152-3
Q201	8-729-800-43	TRANSISTOR 2SK152-3
Q202	8-729-800-43	TRANSISTOR 2SK152-3
Q301	8-729-141-43	TRANSISTOR 2SD414
Q302	8-729-167-62	TRANSISTOR 2SC2676
Q303	8-729-167-62	TRANSISTOR 2SC2676
Q304	8-769-111-00	TRANSISTOR 2SK120
Q305	8-729-180-92	TRANSISTOR 2SD809-K
Q306	8-729-154-83	TRANSISTOR 2SB548
Q307	8-729-113-82	TRANSISTOR 2SA1138
Q308	8-729-113-82	TRANSISTOR 2SA1138

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q309	8-769-111-00	TRANSISTOR 2SK120
Q310	8-729-173-37	TRANSISTOR 2SA733-P
Q311	8-729-606-33	TRANSISTOR 2SC2603-F
Q401	8-729-178-54	TRANSISTOR 2SC2785
Q402	8-729-200-56	TRANSISTOR 2SK241-GR
Q403	8-729-201-93	TRANSISTOR 2SC2995-O
Q404	8-729-200-56	TRANSISTOR 2SK241-GR
Q405	8-729-201-93	TRANSISTOR 2SC2995-O
Q406	8-729-178-54	TRANSISTOR 2SC2785
Q407	8-729-178-54	TRANSISTOR 2SC2785
Q408	8-729-117-54	TRANSISTOR 2SA1175
Q409	8-729-178-54	TRANSISTOR 2SC2785
Q410	8-729-900-80	TRANSISTOR DTC144ES
Q411	8-729-900-74	TRANSISTOR DTC143TS
Q501	8-729-672-43	TRANSISTOR 2SC2724-D
Q502	8-729-672-43	TRANSISTOR 2SC2724-D
Q503	8-729-901-52	TRANSISTOR 2SA933S-R
Q504	8-729-178-54	TRANSISTOR 2SC2785
Q505	8-729-901-52	TRANSISTOR 2SA933S-R
Q506	8-729-178-54	TRANSISTOR 2SC2785
Q507	8-729-178-54	TRANSISTOR 2SC2785
Q508	8-729-178-54	TRANSISTOR 2SC2785
Q509	8-729-178-54	TRANSISTOR 2SC2785
Q510	8-729-178-54	TRANSISTOR 2SC2785
Q511	8-729-901-52	TRANSISTOR 2SA933S-R
Q512	8-729-178-54	TRANSISTOR 2SC2785
Q513	8-729-901-52	TRANSISTOR 2SA933S-R
Q514	8-729-901-52	TRANSISTOR 2SA933S-R
Q515	8-729-901-52	TRANSISTOR 2SA933S-R
Q516	8-729-178-54	TRANSISTOR 2SC2785
Q517	8-729-178-54	TRANSISTOR 2SC2785
Q518	8-729-132-00	TRANSISTOR 2SK121-2
Q519	8-729-178-54	TRANSISTOR 2SC2785
Q520	8-729-178-54	TRANSISTOR 2SC2785
Q521	8-729-178-54	TRANSISTOR 2SC2785
Q522	8-729-178-54	TRANSISTOR 2SC2785
Q523	8-729-178-54	TRANSISTOR 2SC2785
Q524	8-729-901-52	TRANSISTOR 2SA933S-R
Q525	8-729-178-54	TRANSISTOR 2SC2785
Q526	8-729-132-00	TRANSISTOR 2SK121-2
Q527	8-729-178-54	TRANSISTOR 2SC2785
Q528	8-729-178-54	TRANSISTOR 2SC2785
Q529	8-729-672-43	TRANSISTOR 2SC2724-D
Q530	8-729-900-89	TRANSISTOR DTC144ES
Q531	8-729-900-89	TRANSISTOR DTC144ES
Q532	8-729-900-89	TRANSISTOR DTC144ES
Q533	8-729-178-54	TRANSISTOR 2SC2785
Q534	8-729-178-54	TRANSISTOR 2SC2785
Q535	8-729-178-54	TRANSISTOR 2SC2785
Q536	8-729-178-54	TRANSISTOR 2SC2785
Q537	8-729-178-54	TRANSISTOR 2SC2785
Q538	8-729-901-52	TRANSISTOR 2SA933S-R
Q539	8-729-901-52	TRANSISTOR 2SA933S-R
Q540	8-729-178-54	TRANSISTOR 2SC2785
Q650	8-729-178-54	TRANSISTOR 2SC2785
Q651	8-729-178-54	TRANSISTOR 2SC2785
Q701	8-729-612-77	TRANSISTOR 2SA1027R

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q801	8-729-612-77	TRANSISTOR 2SA1027R
Q802	8-729-612-77	TRANSISTOR 2SA1027R
Q803	8-729-900-61	TRANSISTOR DTA114ES
Q804	8-729-900-89	TRANSISTOR DTC144ES
Q805	8-729-900-89	TRANSISTOR DTC144ES
Q806	8-729-900-61	TRANSISTOR DTA114ES
Q807	8-729-900-61	TRANSISTOR DTA114ES
Q808	8-729-900-61	TRANSISTOR DTA114ES
Q809	8-729-900-61	TRANSISTOR DTA114ES
Q810	8-729-900-89	TRANSISTOR DTC144ES
Q811	8-729-900-89	TRANSISTOR DTC144ES
Q902	8-729-288-03	TRANSISTOR 2SD880
Q903	8-729-173-13	TRANSISTOR 2SB731
Q904	8-729-180-92	TRANSISTOR 2SB809K
Q905	8-729-606-33	TRANSISTOR 2SC2603-F
Q906	8-729-606-33	TRANSISTOR 2SC2603-F
Q907	8-729-606-33	TRANSISTOR 2SC2603-F
Q908	8-729-606-33	TRANSISTOR 2SC2603-F
Q909	8-729-900-89	TRANSISTOR DTC144ES
Q910	8-729-606-33	TRANSISTOR 2SC2603-F

R101	1-214-897-00	METAL	22K	1%	1/2W
R102	1-214-880-00	METAL	4.7K	1%	1/2W
R103	1-214-964-00	METAL	1M	1%	1/4W
R104	1-214-832-00	METAL	47	1%	1/2W
R105	1-214-860-00	METAL	680	1%	1/2W
R106	1-214-851-00	METAL	300	1%	1/2W
R107	1-214-884-00	METAL	6.8K	1%	1/2W
R108	1-214-777-00	METAL	100K	1%	1/4W
R109	1-214-888-00	METAL	10K	1%	1/2W
R110	1-214-888-00	METAL	10K	1%	1/2W
R111	1-214-761-00	METAL	22K	1%	1/4W
R112	1-214-753-00	METAL	10K	1%	1/4W
R113	1-214-888-00	METAL	10K	1%	1/2W
R114	1-214-860-00	METAL	680	1%	1/2W
R115	1-214-868-00	METAL	1.5K	1%	1/2W
R116	1-214-897-00	METAL	22K	1%	1/2W
R117	1-214-856-00	METAL	470	1%	1/2W
R118	1-214-864-00	METAL	1K	1%	1/2W
R119	1-214-761-00	METAL	22K	1%	1/4W
R120	1-214-741-00	METAL	3.3K	1%	1/4W
R121	1-214-751-00	METAL	8.2K	1%	1/4W
R122	1-214-911-00	METAL	82K	1%	1/2W
R131	1-249-425-11	CARBON	4.7K	5%	1/6W
R132	1-247-839-00	CARBON	2.2K	5%	1/6W
R133	1-214-892-00	METAL	15K	1%	1/2W
R134	1-214-761-00	METAL	22K	1%	1/4W
R135	1-214-753-00	METAL	10K	1%	1/4W
R136	1-214-888-00	METAL	10K	1%	1/2W
R138	1-249-441-11	CARBON	100K	5%	1/6W
R140	1-214-879-00	METAL	4.3K	1%	1/2W
R141	1-214-861-00	METAL	750	1%	1/2W
R142	1-214-888-00	METAL	10K	1%	1/2W
R143	1-214-890-00	METAL	12K	1%	1/2W
R144	1-214-902-00	METAL	36K	1%	1/2W
R145	1-214-878-00	METAL	3.9K	1%	1/2W
R146	1-214-964-00	METAL	1M	1%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R147	1-214-777-00	METAL	100K	1%	1/4W
R148	1-214-844-00	METAL	150	1%	1/2W
R149	1-214-765-00	METAL	33K	1%	1/4W
R150	1-247-712-11	CARBON	820	5%	1/4W
R151	1-214-749-00	METAL	6.8K	1%	1/4W
R152	1-214-777-00	METAL	100K	1%	1/4W
R153	1-214-713-00	METAL	220	1%	1/4W
R154	1-214-848-00	METAL	220	1%	1/2W
R155	1-247-839-00	CARBON	2.2K	5%	1/6W
R201	1-214-897-00	METAL	22K	1%	1/2W
R202	1-214-880-00	METAL	4.7K	1%	1/2W
R203	1-214-964-00	METAL	1M	1%	1/4W
R204	1-214-832-00	METAL	47	1%	1/2W
R205	1-214-860-00	METAL	680	1%	1/2W
R206	1-214-851-00	METAL	300	1%	1/2W
R207	1-214-884-00	METAL	6.8K	1%	1/2W
R208	1-214-777-00	METAL	100K	1%	1/4W
R209	1-214-888-00	METAL	10K	1%	1/2W
R210	1-214-888-00	METAL	10K	1%	1/2W
R211	1-214-761-00	METAL	22K	1%	1/4W
R212	1-214-753-00	METAL	10K	1%	1/4W
R213	1-214-888-00	METAL	10K	1%	1/2W
R214	1-214-860-00	METAL	680	1%	1/2W
R215	1-214-868-00	METAL	1.5K	1%	1/2W
R216	1-214-897-00	METAL	22K	1%	1/2W
R217	1-214-856-00	METAL	470	1%	1/2W
R218	1-214-864-00	METAL	1K	1%	1/2W
R219	1-214-761-00	METAL	22K	1%	1/4W
R220	1-214-741-00	METAL	3.3K	1%	1/4W
R221	1-214-751-00	METAL	8.2K	1%	1/4W
R222	1-214-911-00	METAL	82K	1%	1/2W
R231	1-249-425-11	CARBON	4.7K	5%	1/6W
R232	1-247-839-00	CARBON	2.2K	5%	1/6W
R233	1-214-892-00	METAL	15K	1%	1/2W
R234	1-214-761-00	METAL	22K	1%	1/4W
R235	1-214-753-00	METAL	10K	1%	1/4W
R236	1-214-888-00	METAL	10K	1%	1/2W
R238	1-249-441-11	CARBON	100K	5%	1/6W
R240	1-214-879-00	METAL	4.3K	1%	1/2W
R241	1-214-861-00	METAL	750	1%	1/2W
R242	1-214-888-00	METAL	10K	1%	1/2W
R243	1-214-890-00	METAL	12K	1%	1/2W
R244	1-214-902-00	METAL	36K	1%	1/2W
R245	1-214-878-00	METAL	3.9K	1%	1/2W
R246	1-214-964-00	METAL	1M	1%	1/4W
R247	1-214-777-00	METAL	100K	1%	1/4W
R248	1-214-844-00	METAL	150	1%	1/2W
R249	1-214-765-00	METAL	33K	1%	1/4W
R250	1-247-712-11	CARBON	820	5%	1/4W
R251	1-214-749-00	METAL	6.8K	1%	1/4W
R252	1-214-777-00	METAL	100K	1%	1/4W
R253	1-214-713-00	METAL	220	1%	1/4W
R254	1-214-848-00	METAL	220	1%	1/2W
R255	1-247-839-00	CARBON	2.2K	5%	1/6W
R300	1-249-425-11	CARBON	4.7K	5%	1/6W
R301	1-214-864-00	METAL	1K	1%	1/2W
R302	1-214-866-00	METAL	1.2K	1%	1/2W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R303	1-214-866-00	METAL	1.2K	1%	1/2W
R304	1-214-864-00	METAL	1K	1%	1/2W
R305	1-214-753-00	METAL	10K	1%	1/4W
R306	1-214-753-00	METAL	10K	1%	1/4W
R309	1-214-903-00	METAL	39K	1%	1/2W
R310	1-214-749-00	METAL	6.8K	1%	1/4W
R311	1-249-425-11	CARBON	4.7K	5%	1/6W
R312	1-249-417-11	CARBON	1K	5%	1/6W
R313	1-249-422-11	CARBON	2.7K	5%	1/6W
R316	1-247-220-00	CARBON	150	5%	1/2W
R318	1-249-441-11	CARBON	100K	5%	1/6W
R319	1-247-849-00	CARBON	5.6K	5%	1/6W
R321	1-249-429-11	CARBON	10K	5%	1/6W
R322	1-249-429-11	CARBON	10K	5%	1/6W
R323	1-249-429-11	CARBON	10K	5%	1/6W
R324	1-249-429-11	CARBON	10K	5%	1/6W
R325	1-249-405-11	CARBON	100	5%	1/6W
R326	1-249-419-11	CARBON	1.5K	5%	1/6W
R327	1-214-902-00	METAL	36K	1%	1/2W
R328	1-214-749-00	METAL	6.8K	1%	1/4W
R329⚠	1-217-387-00	FUSIBLE	10	5%	1/4W F
R330⚠	1-217-387-00	FUSIBLE	10	5%	1/4W F
R341	1-247-804-00	CARBON	75	5%	1/6W
R342	1-247-819-00	CARBON	330	5%	1/6W
R343	1-247-818-00	CARBON	300	5%	1/6W
R344	1-247-811-00	CARBON	150	5%	1/6W
R345	1-249-405-11	CARBON	100	5%	1/6W
R346	1-247-821-00	CARBON	390	5%	1/6W
R347	1-247-783-00	CARBON	10	5%	1/6W
R348	1-249-429-11	CARBON	10K	5%	1/6W
R349	1-247-803-00	CARBON	68	5%	1/6W
R401	1-249-429-11	CARBON	10K	5%	1/6W
R402	1-249-429-11	CARBON	10K	5%	1/6W
R403	1-249-425-11	CARBON	4.7K	5%	1/6W
R404	1-249-425-11	CARBON	4.7K	5%	1/6W
R405	1-249-417-11	CARBON	1K	5%	1/6W
R406	1-249-425-11	CARBON	4.7K	5%	1/6W
R407	1-249-425-11	CARBON	4.7K	5%	1/6W
R408	1-249-429-11	CARBON	10K	5%	1/6W
R409	1-247-903-00	CARBON	1M	5%	1/6W
R410	1-247-896-00	CARBON	510K	5%	1/6W
R411	1-247-797-00	CARBON	39	5%	1/6W
R412	1-247-815-00	CARBON	220	5%	1/6W
R413	1-247-872-00	CARBON	51K	5%	1/6W
R414	1-249-429-11	CARBON	10K	5%	1/6W
R415	1-247-791-00	CARBON	22	5%	1/6W
R416	1-247-857-00	CARBON	12K	5%	1/6W
R417	1-247-857-00	CARBON	12K	5%	1/6W
R418	1-249-417-11	CARBON	1K	5%	1/6W
R419	1-249-405-11	CARBON	100	5%	1/6W
R420	1-249-417-11	CARBON	1K	5%	1/6W
R421	1-249-432-11	CARBON	18K	5%	1/6W
R422	1-247-868-00	CARBON	36K	5%	1/6W
R423	1-247-839-00	CARBON	2.2K	5%	1/6W
R424	1-249-429-11	CARBON	10K	5%	1/6W
R425	1-249-429-11	CARBON	10K	5%	1/6W
R426	1-249-429-11	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R427	1-247-839-00	CARBON	2.2K	5%	1/6W
R428	1-249-425-11	CARBON	4.7K	5%	1/6W
R429	1-249-441-11	CARBON	100K	5%	1/6W
R430	1-249-429-11	CARBON	10K	5%	1/6W
R431	1-249-405-11	CARBON	100	5%	1/6W
R432	1-249-429-11	CARBON	10K	5%	1/6W
R433	1-249-425-11	CARBON	4.7K	5%	1/6W
R434	1-249-429-11	CARBON	10K	5%	1/6W
R435	1-249-435-11	CARBON	33K	5%	1/6W
R436	1-249-435-11	CARBON	33K	5%	1/6W
R437	1-249-433-11	CARBON	22K	5%	1/6W
R438	1-247-839-00	CARBON	2.2K	5%	1/6W
R439	1-249-425-11	CARBON	4.7K	5%	1/6W
R440	1-249-429-11	CARBON	10K	5%	1/6W
R441	1-249-441-11	CARBON	100K	5%	1/6W
R442	1-247-903-00	CARBON	1M	5%	1/6W
R443	1-247-903-00	CARBON	1M	5%	1/6W
R444	1-247-797-00	CARBON	39	5%	1/6W
R445	1-247-815-00	CARBON	220	5%	1/6W
R446	1-249-441-11	CARBON	100K	5%	1/6W
R447	1-249-429-11	CARBON	10K	5%	1/6W
R448	1-247-791-00	CARBON	22	5%	1/6W
R449	1-247-857-00	CARBON	12K	5%	1/6W
R450	1-247-857-00	CARBON	12K	5%	1/6W
R451	1-249-417-11	CARBON	1K	5%	1/6W
R452	1-249-405-11	CARBON	100	5%	1/6W
R453	1-249-417-11	CARBON	1K	5%	1/6W
R454	1-247-864-00	CARBON	24K	5%	1/6W
R455	1-247-817-00	CARBON	270	5%	1/6W
R456	1-247-804-00	CARBON	75	5%	1/6W
R457	1-247-804-00	CARBON	75	5%	1/6W
R458	1-249-437-11	CARBON	47K	5%	1/6W
R459	1-247-839-00	CARBON	2.2K	5%	1/6W
R460	1-247-804-00	CARBON	75	5%	1/6W
R461	1-247-815-00	CARBON	220	5%	1/6W
R462	1-247-823-00	CARBON	470	5%	1/6W
R501	1-247-721-11	CARBON	4.7K	5%	1/4W
R502	1-249-441-11	CARBON	100K	5%	1/6W
R503	1-249-434-11	CARBON	27K	5%	1/6W
R504	1-247-845-00	CARBON	3.9K	5%	1/6W
R505	1-247-859-00	CARBON	15K	5%	1/6W
R506	1-249-425-11	CARBON	4.7K	5%	1/6W
R507	1-249-414-11	CARBON	560	5%	1/6W
R508	1-249-420-11	CARBON	1.8K	5%	1/6W
R509	1-249-417-11	CARBON	1K	5%	1/6W
R510	1-247-839-00	CARBON	2.2K	5%	1/6W
R511	1-249-417-11	CARBON	1K	5%	1/6W
R512	1-247-893-00	CARBON	390K	5%	1/6W
R513	1-249-425-11	CARBON	4.7K	5%	1/6W
R514	1-249-425-11	CARBON	4.7K	5%	1/6W
R515	1-249-433-11	CARBON	22K	5%	1/6W
R516	1-249-423-11	CARBON	3.3K	5%	1/6W
R517	1-249-425-11	CARBON	4.7K	5%	1/6W
R518	1-247-883-00	CARBON	150K	5%	1/6W
R519	1-249-437-11	CARBON	47K	5%	1/6W
R520	1-247-851-00	CARBON	6.8K	5%	1/6W
R521	1-249-425-11	CARBON	4.7K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R522	1-247-823-00	CARBON	470	5%	1/6W
R523	1-247-833-00	CARBON	1.2K	5%	1/6W
R524	1-247-855-00	CARBON	2.2K	5%	1/6W
R525	1-249-429-11	CARBON	10K	5%	1/6W
R526	1-247-883-00	CARBON	150K	5%	1/6W
R527	1-249-437-11	CARBON	47K	5%	1/6W
R528	1-249-429-11	CARBON	10K	5%	1/6W
R529	1-249-417-11	CARBON	1K	5%	1/6W
R530	1-247-823-00	CARBON	470	5%	1/6W
R531	1-249-425-11	CARBON	4.7K	5%	1/6W
R532	1-249-425-11	CARBON	4.7K	5%	1/6W
R533	1-249-433-11	CARBON	22K	5%	1/6W
R534	1-247-839-00	CARBON	2.2K	5%	1/6W
R535	1-247-873-00	CARBON	56K	5%	1/6W
R536	1-247-823-00	CARBON	470	5%	1/6W
R537	1-249-429-11	CARBON	10K	5%	1/6W
R538	1-249-435-11	CARBON	33K	5%	1/6W
R539	1-247-887-00	CARBON	220K	5%	1/6W
R540	1-249-437-11	CARBON	47K	5%	1/6W
R541	1-247-875-00	CARBON	68K	5%	1/6W
R542	1-247-851-00	CARBON	6.8K	5%	1/6W
R543	1-249-422-11	CARBON	2.7K	5%	1/6W
R544	1-247-850-00	CARBON	6.2K	5%	1/6W
R545	1-249-425-11	CARBON	4.7K	5%	1/6W
R546	1-249-415-11	CARBON	680	5%	1/6W
R547	1-249-415-11	CARBON	680	5%	1/6W
R548	1-249-425-11	CARBON	4.7K	5%	1/6W
R549	1-249-425-11	CARBON	4.7K	5%	1/6W
R550	1-249-441-11	CARBON	100K	5%	1/6W
R552	1-249-433-11	CARBON	22K	5%	1/6W
R553	1-247-823-00	CARBON	470	5%	1/6W
R554	1-249-425-11	CARBON	4.7K	5%	1/6W
R555	1-249-435-11	CARBON	33K	5%	1/6W
R556	1-247-791-00	CARBON	22	5%	1/6W
R557	1-249-437-11	CARBON	47K	5%	1/6W
R558	1-249-429-11	CARBON	10K	5%	1/6W
R559	1-249-437-11	CARBON	47K	5%	1/6W
R560	1-247-852-00	CARBON	7.5K	5%	1/6W
R561	1-247-852-00	CARBON	7.5K	5%	1/6W
R562	1-247-839-00	CARBON	2.2K	5%	1/6W
R563	1-247-873-00	CARBON	56K	5%	1/6W
R564	1-249-434-11	CARBON	27K	5%	1/6W
R566	1-249-437-11	CARBON	47K	5%	1/6W
R567	1-249-433-11	CARBON	22K	5%	1/6W
R568	1-247-839-00	CARBON	2.2K	5%	1/6W
R569	1-247-823-00	CARBON	470	5%	1/6W
R571	1-247-823-00	CARBON	470	5%	1/6W
R572	1-249-425-11	CARBON	4.7K	5%	1/6W
R573	1-249-425-11	CARBON	4.7K	5%	1/6W
R574	1-249-425-11	CARBON	4.7K	5%	1/6W
R576	1-249-433-11	CARBON	22K	5%	1/6W
R577	1-249-433-11	CARBON	22K	5%	1/6W
R578	1-249-433-11	CARBON	22K	5%	1/6W
R579	1-249-433-11	CARBON	22K	5%	1/6W
R580	1-249-417-11	CARBON	1K	5%	1/6W
R581	1-249-433-11	CARBON	22K	5%	1/6W
R582	1-249-429-11	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R583	1-249-429-11	CARBON	10K	5%	1/6W
R584	1-249-429-11	CARBON	10K	5%	1/6W
R585	1-249-429-11	CARBON	10K	5%	1/6W
R586	1-249-429-11	CARBON	10K	5%	1/6W
R587	1-249-429-11	CARBON	10K	5%	1/6W
R588	1-249-429-11	CARBON	10K	5%	1/6W
R589	1-249-429-11	CARBON	10K	5%	1/6W
R590	1-247-813-00	CARBON	180	5%	1/6W
R591	1-247-819-00	CARBON	330	5%	1/6W
R592	1-247-821-00	CARBON	390	5%	1/6W
R593	1-249-415-11	CARBON	680	5%	1/6W
R594	1-247-833-00	CARBON	1.2K	5%	1/6W
R595	1-247-824-00	CARBON	510	5%	1/6W
R596	1-249-417-11	CARBON	1K	5%	1/6W
R597	1-249-405-11	CARBON	100	5%	1/6W
R598	1-247-804-00	CARBON	75	5%	1/6W
R599	1-249-441-11	CARBON	100K	5%	1/6W
R600	1-249-405-11	CARBON	100	5%	1/6W
R601	1-247-804-00	CARBON	75	5%	1/6W
R602	1-249-433-11	CARBON	22K	5%	1/6W
R603	1-249-433-11	CARBON	22K	5%	1/6W
R604	1-249-433-11	CARBON	22K	5%	1/6W
R605	1-249-433-11	CARBON	22K	5%	1/6W
R606	1-249-425-11	CARBON	4.7K	5%	1/6W
R607	1-249-425-11	CARBON	4.7K	5%	1/6W
R608	1-249-425-11	CARBON	4.7K	5%	1/6W
R609	1-249-422-11	CARBON	2.7K	5%	1/6W
R610	1-249-429-11	CARBON	10K	5%	1/6W
R611	1-247-823-00	CARBON	470	5%	1/6W
R612	1-249-425-11	CARBON	4.7K	5%	1/6W
R613	1-249-425-11	CARBON	4.7K	5%	1/6W
R614	1-249-441-11	CARBON	100K	5%	1/6W
R615	1-249-423-11	CARBON	3.3K	5%	1/6W
R616	1-247-815-00	CARBON	220	5%	1/6W
R617	1-247-815-00	CARBON	220	5%	1/6W
R618	1-249-417-11	CARBON	1K	5%	1/6W
R619	1-247-887-00	CARBON	220K	5%	1/6W
R621	1-249-425-11	CARBON	4.7K	5%	1/6W
R622	1-249-441-11	CARBON	100K	5%	1/6W
R623	1-247-851-00	CARBON	6.8K	5%	1/6W
R625	1-249-417-11	CARBON	1K	5%	1/6W
R801	1-249-417-11	CARBON	1K	5%	1/6W
R802	1-249-433-11	CARBON	22K	5%	1/6W
R803	1-249-433-11	CARBON	22K	5%	1/6W
R804	1-249-433-11	CARBON	22K	5%	1/6W
R805	1-249-417-11	CARBON	1K	5%	1/6W
R806	1-249-429-11	CARBON	10K	5%	1/6W
R807	1-249-429-11	CARBON	10K	5%	1/6W
R808	1-249-433-11	CARBON	22K	5%	1/6W
R809	1-247-891-00	CARBON	330K	5%	1/6W
R810	1-247-875-00	CARBON	68K	5%	1/6W
R811	1-247-875-00	CARBON	68K	5%	1/6W
R812	1-247-875-00	CARBON	68K	5%	1/6W
R813	1-247-875-00	CARBON	68K	5%	1/6W
R814	1-249-429-11	CARBON	10K	5%	1/6W
R815	1-247-875-00	CARBON	68K	5%	1/6W
R816	1-247-875-00	CARBON	68K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R817	1-247-875-00	CARBON	68K	5%	1/6W
R818	1-247-875-00	CARBON	68K	5%	1/6W
R901⚠	1-217-387-00	FUSIBLE	10	5%	1/4W F
R902	1-247-839-00	CARBON	2.2K	5%	1/6W
R903	1-249-425-11	CARBON	4.7K	5%	1/6W
R904	1-214-767-00	METAL	39K	1%	1/4W
R905	1-214-737-00	METAL	2.2K	1%	1/4W
R906	1-214-127-00	METAL	620	1%	1/4W
R907	1-214-737-00	METAL	2.2K	1%	1/4W
R908	1-214-755-00	METAL	12K	1%	1/4W
R909	1-247-897-00	CARBON	560K	5%	1/6W
R910	1-247-873-00	CARBON	56K	5%	1/6W
R911	1-247-873-00	CARBON	56K	5%	1/6W
R912	1-247-804-00	CARBON	75	5%	1/6W
R913	1-247-220-00	CARBON	150	5%	1/2W
R914	1-247-881-00	CARBON	120K	5%	1/6W
R915	1-249-433-11	CARBON	22K	5%	1/6W
R916	1-249-425-11	CARBON	4.7K	5%	1/6W
R917	1-249-425-11	CARBON	4.7K	5%	1/6W
R918	1-249-433-11	CARBON	22K	5%	1/6W
R919	1-249-423-11	CARBON	3.3K	5%	1/6W
R920	1-249-425-11	CARBON	4.7K	5%	1/6W
R921	1-247-791-00	CARBON	22	5%	1/6W
R922	1-247-791-00	CARBON	22	5%	1/6W
R923	1-247-891-00	CARBON	330K	5%	1/6W
R924	1-247-891-00	CARBON	330K	5%	1/6W
R925	1-249-425-11	CARBON	4.7K	5%	1/6W
R926	1-249-425-11	CARBON	4.7K	5%	1/6W
R927	1-249-433-11	CARBON	22K	5%	1/6W
R928	1-249-437-11	CARBON	47K	5%	1/6W
R929	1-249-437-11	CARBON	47K	5%	1/6W
RV101	1-228-809-00	RES, VAR, CARBON 50K/50K			
RV102	1-224-253-XX	RES, ADJ, METAL GLAZE 22K			
RV103	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K			
RV105	1-226-980-00	RES, VAR, CARBON 20K/20K			
RV201	1-228-809-00	RES, VAR, CARBON 50K/50K			
RV202	1-224-253-XX	RES, ADJ, METAL GLAZE 22K			
RV203	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K			
RV205	1-226-980-00	RES, VAR, CARBON 20K/20K			
RV501	1-228-723-00	RES, ADJ, CARBON 5K			
RV502	1-228-142-00	RES, VAR, CARBON 20K			
RV503	1-228-992-11	RES, ADJ, METAL GLAZE 3.3K			
RV901	1-228-723-00	RES, ADJ, CARBON 5K			
RV902	1-228-723-00	RES, ADJ, CARBON 5K			
RV903	1-224-254-XX	RES, ADJ, METAL GLAZE 47K			
RY301	1-515-547-11	RELAY			
RY302	1-515-547-11	RELAY			
RY303	1-515-547-11	RELAY			
RY401	1-515-547-11	RELAY			
S1	1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)			
S2	1-554-862-11	SWITCH, PUSH (2 KEY)(REC RESOLUTION)			
S3	1-553-739-21	SWITCH, KEY BOARD (REC MUTE)			
S4	1-554-863-11	SWITCH, PUSH (3 KEY)(TRACKING)			
S5	1-554-863-11	SWITCH, PUSH (3 KEY)(AUTO PB MUTE)			
S6	1-554-863-11	SWITCH, PUSH (3 KEY)(COPY)			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S401	1-554-862-11	SWITCH, PUSH (2 KEY)
S402	1-554-862-11	SWITCH, PUSH (2 KEY)
S403	1-516-785-XX	SWITCH, SLIDE (DIGITAL OUT)
S501	1-800-202-XX	THERMISTOR S-10K
T1	⚠ 1-448-589-11	(US)....TRANSFORMER, POWER
T1	⚠ 1-448-590-11	(AEP)...TRANSFORMER, POWER
X301	1-567-280-11	VIBRATOR, CRYSTAL
X302	1-527-948-00	VIBRATOR, CRYSTAL
X501	1-527-949-00	VIBRATOR, CRYSTAL
X502	1-527-871-00	OSCILLATOR, LITHIUM TANTALATE

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-551-315-00	CORD, CONNECTION
1-557-817-11	CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-703-450-01	INSTRUCTION
3-760-866-11	MANUAL, INSTRUCTION
3-760-866-11	MANUAL, INSTRUCTION
4-886-573-00	CUSHION (LEFT)
4-886-574-00	CUSHION (RIGHT)
4-906-064-01	(AEP)....INDIVIDUAL CARTON
4-906-064-11	(US).....INDIVIDUAL CARTON

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.